

U.S. Army CECOM Life Cycle Management Command

CECOM
LCMC

Spectra

August 2008
Issue 1

ARMY
TEAM
C4ISR

INAUGURAL ISSUE:

*Follow the
events, people
and life cycle
of this key Army
technology arena*

**Command & Control
Communications
Computers
Intelligence
Surveillance
Reconnaissance**

One Vision, One Mission -

Special issue includes
Army Team C4ISR
organization profiles

News from the front
and the future on
Soldiers and C4ISR

Information briefs
from professionals on
a variety of Army
Team C4ISR initiatives

News on Army Team
C4ISR's future at
Aberdeen Proving
Ground

The Warfighter.



MG Dennis L. Via
*Commanding General,
 CECOM Life Cycle
 Management Command*

With 90 years of innovation excellence behind us, Army Team C4ISR readies to lead the next 90 years at Aberdeen Proving Ground, Maryland

Since becoming the Commanding General of the Communications-Electronics (CECOM) Life Cycle Management Command (LCMC) in July 2007, I have had the privilege of a "front row and behind the curtains" vantage point that has enabled me to more fully appreciate the enormity and complexity of the technological advancements and contributions CECOM and its predecessor and sister organizations headquartered here at Fort Monmouth, N.J., have provided for our nation for more than nine decades.

Over the course of those 90 years, during peacetime and war, our engineers and scientists led the way in radio development by fielding the Army's first hand-held radios, and by developing military uses of the FM band, the first artificial quartz crystals, and frequency hopping algorithms. They helped usher in the Space Age when the famous Diana radar antenna here bounced electronic signals off of the moon for the first time, and also with the Army's first bold venture into satellite communications with the launch of the Vanguard I satellite. Similar "firsts" and breakthroughs have occurred in radar, night vision, and telecommunications, and a variety of meteorological, sensor, and other technologies continuing into our modern day force.

These innovative missions are now proudly spearheaded by our CECOM LCMC and Army Team C4ISR (Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance) organizations headquartered at Fort Monmouth, N.J., with a continental United States and global footprint comprising 31 states and 27 countries. And our focus today is far more than just technological advancement. Even as the pace of C4ISR technology exploration and innovation has quickened exponentially as described in Moore's Law, our primary mission remains supporting the "The Joint Warfighter," and providing him with superior, world-class C4ISR systems and capabilities to enable him to accomplish his mission.

Our Army Team C4ISR organizations are

mutually dependent in executing our respective missions as it is imperative that we effectively and efficiently coordinate and synchronize our collective efforts in order to develop, acquire, field, integrate, and sustain critical C4ISR systems as part of the ARFORGEN process in a period of persistent conflict. Our effectiveness is enabled through Army leader awareness of our organizations, missions and capabilities, and an understanding of how best to leverage us to support their mission. It is with this thought in mind, that I am proud to introduce to you this inaugural issue of Spectra Magazine.

In this issue, we describe the CECOM LCMC and Army Team C4ISR organizations, and explain how they continue to lead change, adapt commercial technology and innovation, and provide our warfighters with systems, capabilities, and support that make them more capable – more lethal – and more effective. I'm certain that you will enjoy reading the articles and that you will develop a greater understanding of our mission, priorities, and capabilities.

It is also notable that this first issue of Spectra is being published at a time of enormous change at the CECOM LCMC as we begin relocating our C4ISR mission and personnel to our new headquarters at Aberdeen Proving Ground, Md. as mandated by the 2005 Base Realignment and Closure (BRAC) law. As you will read in the following pages, we're leveraging BRAC as a catalyst for change and as an opportunity to re-envision our future and transform our organizations into an even more capable Army Team to meet our future force requirements of 2015 and beyond.

I encourage you to explore this inaugural issue in detail, and as you do, I'm certain you will come away with a deep appreciation of the over 10,000 magnificent Soldiers, Army civilians, and contractors who comprise Army Team C4ISR and this command's 90 year tradition of exceptional selfless service to our Army and the nation.

**One Vision, One Mission - The Warfighter.
 Army Strong!**

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ARMY
TEAM**C4ISR SPOTLIGHT****SPOTLIGHTS ON THE ORGANIZATIONS THAT SUPPORT
THE LIFE CYCLE OF THE ARMY'S LANDWARNet**

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Cover ...**

Photo by Petty Officer 1st Class Michael Larson

CPT Chad Foster, from the 1st Battalion, 66th Armor Regiment, 1st Brigade Combat Team, 4th Infantry Division, delivers a situation report during an air assault raid on suspected insurgent sanctuaries in Mushahda, Iraq on July 17, 2006

Spectra n. a plural of spectrum. 1. an array of entities, as light waves or particles, ordered in accordance with the magnitudes of a common physical property. 2. A broad range of varied but related ideas or objects that form a continuous series or sequence.



From the Random House College Dictionary, First Edition

U.S. ARMY

CECOM Life Cycle Management Command

MISSION: Develop, acquire, field, support and sustain superior command, control, communications, computer, intelligence, surveillance reconnaissance and information systems for the joint Warfighter.

We are rapidly fielding the best new C4ISR equipment to Soldiers fighting every day, upgrading and modernizing existing systems, incorporating new technologies and ensuring operational readiness of these systems that both protect our Warfighters and give them a technological advantage over the enemy.

Executing this worldwide business is a worldwide military and government civilian workforce of over 10,000 highly skilled engineers and scientists, IT spe-

cialists, logisticians, technicians, contracting, legal, financial and analytical experts.

The command is headquartered at Fort Monmouth with major concentrations of employees at Tobyhanna Army Depot, Pa.; Fort Huachuca, Ariz.; Fort Belvoir, Va.; Fort Detrick, Md., and Fort Hood, Texas.

At any point in time, hundreds of our employees are forward deployed with the troops we support, stateside as well as overseas.



Army TEAM C4ISR



**MAJOR GENERAL
DENNIS L. VIA**

Major General Dennis L. Via serves as the Commanding General, CECOM Life Cycle Management Command (CECOM LCMC). As Commander, General Via leads a world-wide organization of over 10,000 military and civilian personnel responsible for coordinating, integrating and synchronizing the entire life-cycle management of the C4ISR systems for all of the Army's battlefield mission areas – maneuver control, fire support, air defense, intelligence, combat services support, tactical radios, satellite communications, and the warfighter information network.

**CECOM
LCMC**

The CECOM LCMC and Army Team C4ISR are comprised of independent and inter-dependent organizations that are collectively responsible for the life cycle of C4ISR systems. These organizations include the CECOM LCMC, the Program Executive Office (PEO) for



Key Leader Profile

Prior to assuming command, General Via served as Commanding General, 5th Signal Command, and United States Army, Europe and Seventh Army (USAREUR) Chief Information Officer/Assistant Chief of Staff, G6 (CIO/G6).

General Via is a native of Martinsville, Virginia. He attended Virginia State University in Petersburg, Virginia, where he graduated in May 1980 as a Distinguished Military Graduate, and received his commission as a Second Lieutenant in the Signal Corps. He holds a Master's Degree from Boston University. General Via is a graduate of the United States Army Command and General Staff College, and the United States Army War College.

General Via began his career with the 35th Signal Brigade, XVIII Airborne Corps, Fort Bragg, North Carolina. Key assignments include Commander, 82nd Signal Battalion, 82nd Airborne Division; Commander, 3rd Signal Brigade and III Corps Assistant Chief of Staff, G6; Division Chief, Joint Requirements Oversight Council (JROC) Division, Office of the Deputy Chief of Staff, Army G8, Headquarters, Department of the Army; Director, Global Operations, Defense Information Systems Agency (DISA); and Deputy Commander, Joint Task Force-Global Network Operations (USSTRATCOM). General Via's military awards and decorations include the Distinguished Service Medal, the Defense Superior Service Medal, two awards of the Legion of Merit, two awards of the Defense Meritorious Service Medal and five awards of the Meritorious Service Medal. The General is authorized to wear the Army Staff Identification Badge and the Master Parachutist Badge.



Command, Control and Communications Tactical, the PEO for Intelligence, Electronic Warfare and Sensors, the PEO for Enterprise Information Systems, and the Communications Electronics Research, Development and Engineering Center.



U.S. Army Photo

In June of 1917, Signal Corps telegraph Soldiers training at Camp Little Silver, N.J. are called to formation.

Past, present and future, sights fixed on Soldiers

By Timothy Rider
Spectra Editor

Near the end of June 1917, the little camp that LTC Carl F. Hartmann helped establish here and subsequently commanded — Camp Little Silver — consisted only of pup tents and tent pegs. The First and Second Reserve Telegraph Battalions were training Soldiers on telegraph technology, and before long, more battalions would arrive.

By the end of that year, a total of 2,416 enlisted men and 448 officers would arrive at or pass through this U.S. Army Signal Corps training post on their way to the "Great War," and here also, the Signal Corps Radio Laboratory would begin devising means to communicate with the Army's newest flying machines and to meet other specialized communications needs.

From this fast-paced start, the installation that was officially re-named Fort Monmouth in 1925 began a tradition of superb service to the nation. In the 90 years that followed, the post would shrink and grow at intervals as missions formed and changed. An array of organizations carrying varied and changing banners would pass through, and eventually the mission of training Signal Corps Soldiers would pass to another installation. The fast pace, however, continued well into the 21st Century due to the continuing focus on Army command, control, communications, computers, intelligence, surveillance and reconnaissance (C4ISR) technologies as the Information Age unfolded.

Among the many technological contributions

here were numerous milestones in the development of radar. Circling above us and still functioning since 1958 due to its pioneering use of solar power is the Fort Monmouth-developed Vanguard I, the Army's initial foray into satellite communications.

Fort Monmouth is where the first artificial quartz crystals were developed, leading to the design of the first portable radio — deemed a "walkie-talkie." It's where the Army built the first mobile, digital computer, MOBIDIC; and much to the dismay of lead-footed drivers the world over, the world's first hand-held radar was built here. Engineers here also made significant contributions to telephone switching system, laser rangefinder and night vision technologies.

"If you were to remove the historic technological contributions to the modern world made by Fort Monmouth, this would be a much less advanced and much less enlightened world," said MG Dennis L. Via, commanding general of the U.S. Army CECOM Life Cycle Management Command (LCMC).

Today: Engineering the Integrated Army Enterprise

The bottom line for CECOM is the Warfighter. "The capabilities we bring to the Warfighter are about more than just technology because they must be incorporated into warfighting doctrine," said Via. "Those capabilities achieve their greatest value when they're integrated into a cohesive whole and Soldiers are

"LCMC," Continues Next Page





Photo by Jim Hinnant

Ernest Chaney, senior command representative, U.S. Army CECOM Life Cycle Management Command and SGT Joseph Kesner, C Company, 148th Infantry Battalion, 37th Infantry Brigade Combat Team, discuss the Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) systems carried onboard the High Mobility Multi-purpose Wheeled Vehicle, July 14, at Camp Arifjan, Kuwait. Chaney is a Department of the Army civilian volunteer deployed to Southwest Asia from CECOM-Europe, Mannheim, Germany. As senior command representative, Chaney serves as the single point of contact in Southwest Asia for all Army Team C4ISR-related matters.

trained on the new technology and the systems are sustained and adapted in the warfighting environment."

Today, Fort Monmouth hosts a diverse group of organizations collectively responsible for maximizing C4ISR capabilities for our nation's warfighters. This team is known as Army Team C4ISR, which includes CECOM; the Program Executive Office (PEO) for Command, Control and Communications Tactical; the PEO for Intelligence, Electronic Warfare and Sensors; the PEO for Enterprise Information Systems (EIS) and the Communications-Electronics Research, Development and Engineering Center (CERDEC).

"If a Soldier sees, hears, communicates, commands or protects the force with it, then you will know it's a CECOM LCMC product," said Via.

At the heart of the Army Team C4ISR is the CECOM LCMC. "The CECOM Lifecycle Management Command works with all the Army Team C4ISR organizations looking at [capabilities and programs] from a total enterprise perspective for the Army," said

CECOM LCMC Deputy to the Commanding General Edward Thomas. "In our case we would call that Army LandWarNet."

The CECOM LCMC is comprised of three functional support centers: the Logistics and Readiness Center (LRC), the Software Engineering Center (SEC) and the Acquisition Center as well as three separate brigade elements: Tobyhanna Army Depot, Tobyhanna, Pa; the U.S. Army Information Systems Engineering Command (USAISEC), Fort Huachuca, Ariz.; the Central Technical Support Facility (CTSF), Fort Hood, Texas; and its two partner PEOs for Command, Control and Communications Tactical and for Intelligence, Electronic Warfare and Sensors.

"While Program Executive Offices and PMs [Project Managers] have life cycle responsibility for individual systems, there is a critical necessity for the various C4ISR systems to interoperate — to work as one — in a network centric environment. Someone has

to have the role to ... perform the integrating function as it becomes necessary," said Thomas. "That's our primary role."

"We have an important mission in support of the Army's enterprise information systems, meaning those information or management systems that the institutional Army uses to conduct its business," said Thomas.

The CECOM LCMC as a whole and Tobyhanna Army Depot support the Project Manager for the fielding and sustainment of the Logistics Modernization Program, the new enterprise resource planning technology system that is helping the Army manage all of its inventory and maintenance programs from the national level down to the tactical, installation or retail levels.

"We're also responsible for supporting the PEO EIS in their role of providing the new financial accounting system for the Army," said Thomas.

In July 2008, the CECOM LCMC estab

lished operational control of the CTSF, a facility that is ensuring systems interoperability Army-wide. "Any Army system that has a requirement to exchange information must go to the CTSF for testing in a system-of-systems or enterprise environment," said Thomas.

"While CECOM supports the Army by providing interoperability certification, it also supports PEOs and PMs with all the technical and functional support they need to manage their programs, get them fielded and ultimately sustain them," he said.

For example, while the PEO for EIS is charged with management responsibility across the lifecycle of the I3MP (Information Infrastructure Modernization Program), all the engineering support to EIS comes from the USAISEC," said Thomas.

"Those [USAISEC] engineers will plan, design and install the information infrastructure backbone for a post, camp or station and that's what they do throughout the world," he said.

The CECOM LCMC also provides project and product management offices with matrix support personnel who reside within the offices.

"The matrix support efforts that take place across Army Team C4ISR are critical because our people are our greatest asset. Over the course of their careers they develop very specialized C4ISR knowledge," said Via.

"There's a continuing and growing need at the enterprise level for seasoned engineers who can move us forward toward total integration of all of our systems to achieve the goal of network-centric operations," said Thomas.

The CECOM LCMC Acquisition Center provides support to Project Managers and activities across Army Team C4ISR. "The CECOM Acquisition Center will transition and become part of the newly established Army Contracting Command, but they will remain co-located with us and in direct support to the Commanding General of the CECOM LCMC," said Thomas.

"The standup of the Army contracting command should positively impact us, because the Army is putting additional emphasis on resourcing the contracting community," he added.

Sustainment and Readiness for Current Operations

The CECOM LCMC supports the new Army Force Generation (ARFORGEN) process by integrating with the Army Sustainment Command, the Army Materiel Command's lead element for ARFORGEN. The Army Sustainment Command's Army Field Support Battalions cut across all of the different commodities from vehicles to aircraft to C4ISR systems to Soldier equipment and more.



U.S. Army Photo

Technicians test a Digital Switching Unit, a component of a Tactical Operations Center (TOC) at Tobyhanna Army Depot. The testing is part of the CECOM LCMC's worldwide field service representative support for the 4th Infantry Division, 1st Cavalry Division, Stryker brigades and the TOC reset mission for the 4th Infantry Division.

The primary representatives of the CECOM LCMC to the Army field support battalion commanders are the CECOM senior command representatives. These personnel are located at key power projection platforms such as Fort Lewis, Wash.; Fort Bragg, N.C., and Fort Hood, Texas.

cluding the 30,000 troops on the Korean peninsula as well as those involved in drug interdiction missions in South America and in continuing operations in Kosovo.

The LRC's Logistics Assistance Representatives and the SEC's Field Software Engineers, along with Tobyhanna's forward deployed maintenance experts conduct a wide range of activities with deployed units to keep C4ISR systems operating.

The LRC concentrates on repairs, spares and maintenance of hardware or physical parts and the SEC concentrates on software and performing post-deployment software support, which includes maintenance – fixing latent defects or bugs – and updating information assurance to deal with the changing threat environment.

The CECOM LCMC's Tobyhanna Army Depot provides depot support to deployed units in the form of forward repair activities. "Tobyhanna has really transformed itself into an expeditionary capability," said Dave Sharman, Director of the LRC.

The CECOM LCMC experts, whether based at a unit's home station, in a forward center such as the Camp Arifjan, Kuwait Electronic Sustainment Support Center, or embedded in a unit, can diagnose problems and communicate back to the command headquarters.

"If it's a systemic issue that needs some

"We have a very powerful team with all of our components creating an incredible force that delivers powerful capabilities to the Warfighter every day"

Commanding General CECOM LCMC, MG Dennis L. Via

Three are in Southwest Asia, and others are located in Germany, Korea and Rock Island Arsenal, Ill.

"We're the command responsible for fielding new equipment and for resetting C4ISR equipment to bring it back to operational standards and [for] training Soldiers on that new equipment in time to have individual Soldiers and ultimately units and brigades ready to deploy," said Thomas.

With operations in Southwest Asia as a major focus, the CECOM LCMC continues to support combatant commanders worldwide, in-

"LCMC," Continues Next Page



engineering and design work, those same experts can communicate and translate those field problems to our engineers back here in the U.S.," said Thomas. "Engineers in our labs will duplicate the problem, develop alternatives, and ultimately, through coordination with the field, will test different alternatives and come up with solutions."

"Our personnel are integrated into the units," said CECOM LCMC Chief of Staff, COL Ray Montford. "They train with Soldiers, they deploy with them and they know the systems inside and out, so they know what's required, ... and when those systems and those units re-deploy back to the states, they know exactly what's required so they can get those systems reset."

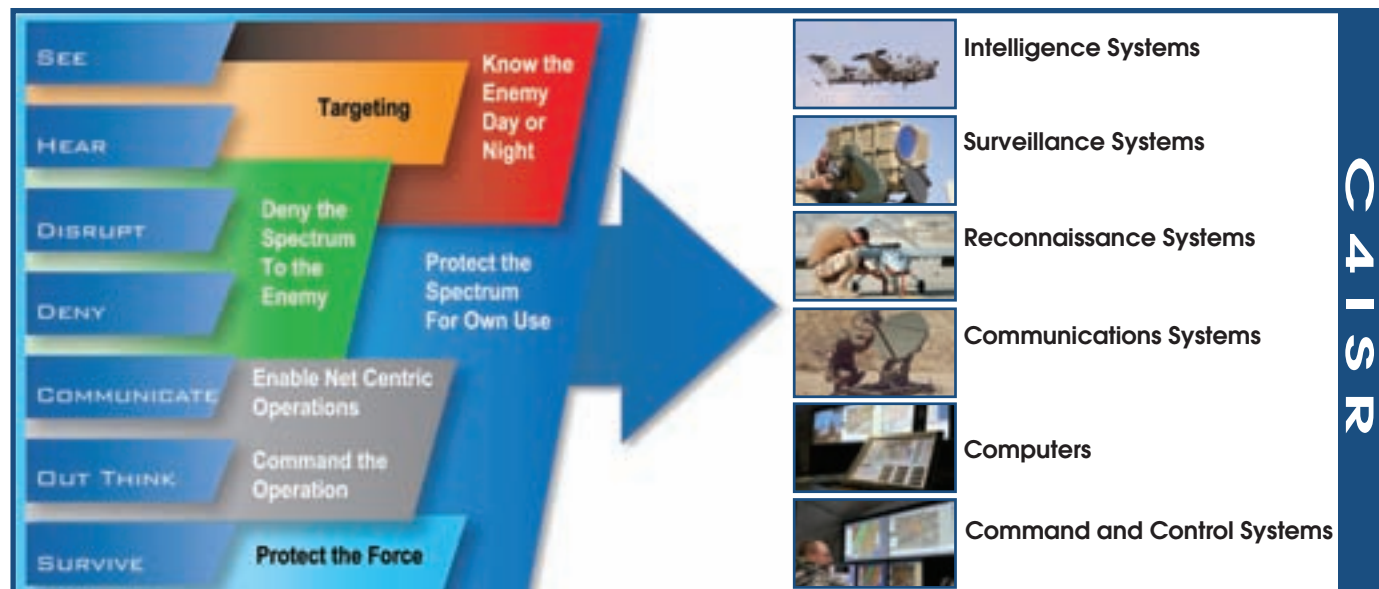
"We have a really robust ARFORGEN and unit set fielding integrated process team that includes members from all elements of the LCMC – the PEOs, the LRC, the SEC, Tobyhanna Army Depot and the CERDEC – who manage all of the support needed to ensure our combat brigades are ready for deployment and are supported while they're deployed and afterward," said Thomas.

"At any point in time, hundreds of our personnel are forward deployed with the troops we support," said Via. "We're supporting the Global War on Terror 24 hours-a-day, seven days-a-week, 365 days-a-year."

A New Chapter in A Proud History Begins

On March 17, Assistant Secretary of the Army for Installations and Environment, the Honorable Keith Eastin; Army Materiel Command Commanding General, GEN Benjamin S. Griffin; Via; Commander of the Research, Development

The depiction below is of the indispensable capabilities C4ISR provides the Warfighter in support of information operations.



CECOM LCMC and Army Team C4ISR BY THE NUMBERS

A rmy Team C4ISR intensively manages a total of 104 major defense programs, amounting to over \$31 billion in total obligation authority to acquire, field sustain and provide new equipment training on C4ISR systems.

- We have reset (repaired, recapitalized or replaced) 127,000 C4ISR systems since FY04
- We are responsible for almost 56,000 inventoried items — half the Army's inventory, including over 6,600 major end items

In Fiscal Year 2007:

- We completed 11 Installation I3MP build-outs, resulting in upgraded and modernized infrastructure for key Army installations
- We produced 130 test reports in support of intra-Army interoperability certification, ensuring system software operates as expected on the battlefield
- We fielded 257 software releases, incorporating 4,337 requirements
- We accomplished \$714 million in maintenance, fabrication and system integration for Army, Navy and Air Force C4ISR systems
- We initiated over \$1B in new foreign military sales cases
- Our contract awards totaled \$14.5B, of which \$2.75B was to small businesses

and Engineering Command, MG Fred D. Robinson, along with various dignitaries and Army Team C4ISR representatives, gathered at a ceremony to mark a new chapter in the tradition of service and excellence that began with tent stakes being driven into the ground at Camp Little Silver more than 90 years ago.

The ceremony was the groundbreaking at Aberdeen Proving Ground (APG), Md., marking the start of construction of "Phase One" of the Army Team C4ISR campus there — a \$477 million project to include five administration and laboratory buildings, a secure shop and warehouse, an auditorium and a 1.5 million square-foot training facility.

"Phase Two" is slated to begin in 2009 with the construction of three more buildings and renovations of existing buildings. The two phases of construction will create an Army "C4ISR Center

of Excellence" at APG.

Implementing a 2005 Base Realignment and Closure (BRAC) decision, Fort Monmouth will close in September 2011 and the CECOM LCMC and most if its Army Team C4ISR partners will relocate their headquarters to APG.

"We intend to leverage BRAC as a catalyst for change," said Via. "The Army is making a once-in-a-generation investment in a LandWarNet, C4ISR and Battle Command center of excellence at APG. Along with state-of-the-art facilities, our personnel who relocate or are hired at APG will have an unprecedented opportunity to innovate and reshape our processes and organizational structures. We're going to build our organization for 2015 and beyond, determining what we need to support the future force and its capabilities and requirements."

Considering that the people of the CECOM



This graphic depiction shows the facilities at Aberdeen Proving Ground, Md. to host the Army C4ISR Center of Excellence. The facilities feature a campus-like environment with people who span the life cycle of various technology domains co-located to create synergy.

LCMC are critical to the command's success, reconstituting the command in its new location at APG while taking exceptional care of its people is one of the Commanding General's top priorities.

"One of the catalysts for building CECOM 2015 and for growing our future Army civilian leaders is an emphasis on our command's intern program," said Via. "The CECOM LCMC has an extensive program of intern professional development and has established an Intern Advisory Council to bring the professional concerns of our many interns to the attention of our senior leadership."

He added that the command has implemented significant training programs for mid-and-senior level management, including the Army Team C4ISR Civilian Leader Development Program and an Executive Development Program.

Since 2005, the CECOM LCMC has sponsored well over 650 training lectures, programs and courses for its personnel to attend. The command has also implemented innovative recruitment methods, including recruiting at college recruitment fairs, and it has reached out to attract and hire transitioning Soldiers and to facilitate spousal employment.

Positive strategic communications and knowledge capture will also contribute to the successful phased relocation of the workforce as will the architectural vision for the Army C4ISR Center of Excellence at APG.

"We'll have a campus environment sufficient to locate all of our employees within easy walking distance of one another, and within those

buildings we're going to co-locate people by the domains in which they work," said Thomas. "For example all of the people working in the satellite communications area – whether they're R&D (research and development) engineers, systems engineers, software engineers, logisticians or PM personnel – are going to be located together."

Mission personnel, who are currently spread across 40 to 50 widely-separated buildings at Fort Monmouth, will occupy a much smaller 16-building complex at APG.

"There's going to be a building for communications systems, a building for command and control, a building for ISR. Buildings for all of the different disciplines from cradle to grave will be located together, and we think that is going to be a terrific improvement for us," said Thomas.

"When we go to APG, it doesn't change the command and control of the organization, but we expect to achieve greater synergy across the lifecycle in all our mission areas."

The relocation of Army Team C4ISR is already happening as an initial presence of early move volunteers and new hires is being formed at APG. "We've begun moving our people down there in phases and are moving about 300 or so positions there this summer — housing them in interim building spaces," said Thomas.

"Next year, we'll move about 500 to 600 people. If we're successful, and we think we will be, by the time the first phase of the Army Team C4ISR campus is ready in 2010, we'll already have about 1,000 people down there with our core management structure and many of our core capabilities in place."

"We'll be able to round out our organization there through 2010 and 2011," said Thomas. "That's the plan and the Army is supporting us with what we need to execute that plan."

Via added that over half of the CECOM LCMC worldwide workforce is not affected by the move of the headquarters to APG and will remain stable.

In his first philosophy of command briefing to the workforce after assuming command, Via commented; "Throughout my entire career as a Signal Corps officer, I've been a customer of this command, so I have a direct appreciation of what CECOM brings to the table for the Warfighter. And since my arrival, I've gained an even greater appreciation of the critical role CECOM LCMC plays everyday in support of our deployed Soldiers. Via continued: "Our Warfighters depend on the technological edge our systems provide, and they depend on us to develop, acquire, field and sustain these C4ISR systems and keep them operational. We will never let them down."

Via said that since taking command one year ago, he has travelled extensively throughout the command's worldwide footprint, and has also visited with warfighters in theater, preparing to deploy, and returning from theater.

"I consistently receive accolades about the great work Army Team C4ISR does," he said. "We have a very powerful team with all of our components creating an incredible force that delivers powerful capabilities to the warfighter every day. At the end of the day it's all about the Soldier." (Elina Tsaturyan of the CECOM LCMC G-3 contributed to this article).



Deputy to the Commanding General

Directly responsible for the mission of the CECOM LCMC functional support centers (LRC, SEC, Acq. Center) and separate brigade commands (TYAD, USAISEC, CTSF). He also works in collaboration with and under the general direction of the Commanding General.

Edward C. Thomas

Member of the Senior Executive Service since 2001.

PREVIOUSLY:

At the CECOM LCMC, Director of the SEC, Deputy Chief of Staff for Operations and Plans.

EDUCATION:

B.A. in Political Science at The College of New Jersey (Trenton State College) in 1974; M.B.A., Fairleigh Dickinson University in 1980, M.S. in National Resource Strategy at the Industrial College of the Armed Forces in 1995.



Deputy Commander (Forward), Aberdeen Proving Ground

Coordinates, integrates and synchronizes all efforts to support Army Team C4ISR elements and personnel as they transition to Aberdeen Proving Ground (APG). Principal interface with the APG leadership and Senior Mission Command staff; Commanding General's personal representative at AP C4ISR elements there.

Colonel Augustus "Fritz" Owens

Assumes duties this summer.

PREVIOUSLY:

An Inspector General in the Department of the Army Inspector General Agency.

EDUCATION:

Bachelor's in Marketing from South Carolina State University and a Master's of Public Administration degree from Strayer University. Graduate of the U.S. Army Command and General Staff College.



Deputy Commander for Operations, Plans and BRAC

Coordinates, integrates and synchronizes efforts and mission sets encompassing all of Army Team C4ISR as the Commanding General's principal lead for BRAC execution of the relocation of the Command to APG.

Colonel Kent Woods

27 years of service as an Army Signal Corps officer.

PREVIOUSLY:

CECOM LCMC Chief of Staff, Chief, Battle Command Division, G-8, Army Staff; Commander, 10th Signal Battalion, 10th Mountain Division (Light Infantry)

EDUCATION: Bachelor's Degree, United States Military Academy. M.A. in Management from Webster University; Graduate of the Army War College and the Armed Forces Staff College.



Chief of Staff

Leads and manages the special staff offices and provides overwatch of the support operations of the Command Group. He also serves as the "gatekeeper" for the Commanding General and as his principal interface with the Fort Monmouth Garrison Commander and with the AMC Chief of Staff.

Colonel Leonard R. (Ray) Montford, Jr.

27 years of service in the U.S. Army. Chief of Staff since April.

PREVIOUSLY:

Project Manager, Force XXI Battle Command Brigade and Below.

EDUCATION: B.S., Electrical Engineering, North Carolina A&T State University; M.S., Computer Systems Management, University of Maryland University College. Graduate of the Industrial College of the Armed Forces and the U.S. Army Command and General Staff College.



Director, BRAC Relocation Task Force

Develops an integrated strategic concept plan to set the conditions for the successful execution of the relocation of the CECOM LCMC and its organizational elements as directed in the 2005 BRAC law and supplemental guidelines.

Raoul Cordeaux

Will transition to new position as the CECOM LCMC G-3/5 (Director for Operations and Plans) this summer.

Director of the BRAC Relocation Task Force since August 2007.

PREVIOUSLY:

CECOM LCMC G6.

EDUCATION: B.S. in Biology/Chemistry from Saint Peter's College, Jersey City, N.J.; M.S. in Oceanography from Long Island University. Graduate, National War College.



Command Sergeant Major

Serves as the principal enlisted advisor to the Commanding General on matters pertaining to troop welfare and morale, proper utilization, promotions, privileges, discipline, training, operations, and logistics. He has responsibility for all activities which affect the morale and welfare of all enlisted personnel.

CSM Ray D. Lane

PREVIOUSLY:

Command Sergeant Major for the 160th Signal Brigade and top enlisted Signal advisor for Operation Iraqi Freedom, Coalition Joint Task Force-Seven, Task Force Signal, and the 22nd Signal Brigade during V Corps' decisive victory.

EDUCATION: Bachelor of Business Administration from McKendree University, with an emphasis on Management and Computer Science.



Director, Commander's Initiatives Group

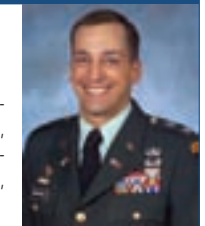
Develops the strategic concepts for Army TEAM C4ISR as well as the strategic vision and Campaign Plan for 2015 and beyond. Manages strategic communications and marketing. Develops and leads the industry outreach program.

Colonel Scot D. MacKenzie

PREVIOUSLY:

Division Chief, Combined Security Transition Command, Kabul, Afghanistan, and Commander, 115th Signal Battalion, Fort Lewis, Wash.

EDUCATION: Bachelor's degree in Mass Communications from Illinois State University; Master's degree from the Naval War College; Graduate, U.S. Army War College.



OUR RESPONSIBILITY: The fielding, sustainment and development of the U.S. Army LandWarNet

CECOM LCMC BRIGADE COMMANDS:

Tobyhanna Army Depot (TYAD)

U.S. Army Information Systems Engineering Command (USAISEC)

Whitfill Central Technical Support Facility (CTSF)

PRIMARY RELATIONSHIPS

AMC Research Development and Engineering Command, Communications

Electronics Research Development and Engineering Center (CERDEC)

The Program Executive Offices for

- Command, Control, Communications Tactical (PEO C3T)
- Intelligence, Electronic Warfare and Sensors (PEO IEW&S)
- Enterprise Information Systems (PEO EIS)



G1 (Director for Personnel and Training)

Plans, manages and administers the CECOM LCMC military and civilian human resources programs world-wide; plans and executes the installation on-site training program, and administers the equal opportunity program for military personnel and their dependents.

Deborah T. Devlin

Has had a diverse career in human resources, including experience in the private sector, as a personnel management intern/specialist for the U.S. Navy, completing a six-year tour in Germany with the U.S. Army-Europe, and at Fort Monmouth where she has held her current position since 1998.

EDUCATION: B.S. in Psychology from the University of Maryland. M.S. in Management (Human Resources) from the Florida Institute of Technology.



CECOM LCMC STAFF

G2 (Director for Intelligence and Security)

Develops, implements and administers intelligence and threat based security programs in support of CECOM LCMC. Coordinates counterintelligence activities conducted by federal intelligence and investigative agencies. Provides installation level support.

James Lint

Served in the Army and Marine Corps as a counterintelligence specialist and special agent.

PREVIOUSLY:

Department of Homeland Security Office of Intelligence and Analysis, and Deputy Director for Safeguards and Security, Office of Science, U.S. Department of Energy.

NOTABLE: Senior Instructor at the U.S. Army's Intelligence Center and School, where he trained enlisted personnel, allied officers, and U.S. officers in the art of military intelligence and counterintelligence.



G3/5 (Director for Operations and Plans)

Serves as staff advisor to the CECOM LCMC Command Group and exercises overall staff coordination with respect to command-wide long-range planning, analysis and management matters and all BRAC initiatives and actions impacting upon CECOM LCMC installations or CECOM LCMC activities located at other installations.

Raoul Cordeaux

Transitions to new position as the CECOM LCMC G-3/5 (Director for Operations and Plans) this summer.

PREVIOUSLY:

CECOM LCMC G6.

EDUCATION: B.S. in Biology/Chemistry from Saint Peter's College, Jersey City, N.J.; M.S. in Oceanography from Long Island University. Graduate, National War College.



G4 (Director, Logistics and Engineering)

Provides command policy, oversight, integration, technical expertise, and reporting in the areas of engineering, facilities, environment, and retail and installation logistics. Principal advisor to the Commanding General and Chief of Staff, CECOM LCMC on related topics.

Michael Vetter

A retired Army engineer officer who served as the Area Engineer for the U.S. Army Corps of Engineers Area Office during Operation Desert Storm. Appointed to current position in April 2002.

PREVIOUSLY:

CECOM Command Facilities Engineer.

EDUCATION: B.S. in Engineering from the United States Military Academy, West Point, N.Y.; M.S. in Engineering from Princeton University. Graduate of the U.S. Army Command and General Staff College.



G6 (Chief Information Officer)

Provides the strategic framework, governance, architectures and acquisition oversight of Information Technology business systems, ensuring robust and secure operational capabilities in support of the CECOM LCMC mission. Principal staff assistant and advisor to the Commanding General on related topics.

Raymond Wood (Acting)

Appointed as acting G-6 in August 2007.

PREVIOUSLY:

Deputy CIO/G-6. Several technical and management positions in the Directorate of Information Management.

EDUCATION: B.A. in History from the University of Maine, Orono, Maine; M.S. in Management from the Florida Institute of Technology. Graduate, National Defense University Chief Information Officer Certificate Program.



G8 (Director for Resource Management)

Serves as the Commanding General's principal staff officer for financial accounting, budgeting, cost analysis, and civilian and military force management matters.

George Chant

Recognized by the American Society of Military Comptrollers for meritorious performance in the Comptroller/Deputy Comptroller category; also has been selected as one of CECOM's top ten employees and has received the CECOM Leadership Award, Executive Category

PREVIOUSLY: Held various positions in Resource Management, including Deputy G-8, Chief of the Program Budget Division, and Chief of the Operating Funds branch. **EDUCATION:** B.S. from Trenton State College; M.P.A. from Fairleigh Dickinson University.



Chief Counsel

Senior Ethics Counselor, Alternative Dispute Senior Advisor, and final authority on all legal matters. Manages and oversees the execution of the Legal Office mission in providing timely and effective legal and business judgment advice, guidance and counsel on all matters pertaining to or associated with the CECOM LCMC.

Mark Sagan

Appointed to the Senior Executive Service as Chief Counsel in May 2004.

PREVIOUSLY:

Acting Chief Counsel. Numerous leadership positions in the Legal Office over 30 years.

EDUCATION: B.A. in American History and Political Science (Cum Laude) from New York University and a Juris Doctorate (Cum Laude) from New York Law School, and is admitted to the New York State Bar.



A long road travelled

An outline of the post's history from waving wig wag flags to training homing pigeons to developing C4ISR for net-centric operations

By Wendy Rejan
Command Historian

Homing pigeons, groundbreaking inventions, award-winning scientists, ingenious engineers, and lifesaving C4ISR systems — Fort Monmouth's history is both colorful and legendary. Advancements in military communications and electronics are nowhere more evident than here. While wig wag flags were once considered a reliable and efficient means of transmitting military information, today's networked operations, by comparison, illustrate just how far Army communications have come.

Recently celebrating its 90th anniversary, Fort Monmouth has been closely associated with signal activities since its inception in 1917. The names by which the current Team C4ISR organizations have been known over the years have often changed. But the critical purpose of supporting the Army's communications and electronics mission has remained the same.

The Army's long history has witnessed a continuous evolution in communications — with technological advances

vastly increasing the speed and volume of information movement over the centuries. And these changes in communications have influenced nearly all facets of military operations: from the density of forces needed to win territory, to the pace and conduct of operations, to the way forces are organized.

Team C4ISR has been at the forefront of this evolutionary process from the Fort's beginnings, providing innovative research and development, rapid acquisition and fielding, and superior sustainment support.

The predecessors of our present-day Team C4ISR took part in some of history's most significant communications and electronics breakthroughs — including the development of vacuum tubes for radios, and the bouncing of signals off the moon to prove the feasibility of extraterrestrial radio communication.

Fort Monmouth scientists and engineers helped change the course of history when, in 1937, they developed the first American radar system. That happened as the country watched Europe slide toward WWII, tasking the Army — among other things — with the challenge of protecting American and Allied interests from

aerial and submarine attack. Instrumental in this effort was the advent of radar, for which COL William R. Blair (1874 - 1962), Director of the Signal Corps Engineering Laboratories at the Fort, was awarded the American patent.



U.S. Army Photo

COL William R. Blair

Witnessed by a gathering of senior military and government officials in 1937, Blair demonstrated the practical value of radar when he showed it could detect the presence and determine the speed of aircraft in flight.

The fateful demonstration went like this. A B-10 Bomber was instructed to fly over Fort Monmouth at night, with running lights extinguished, as radar operators at the Fort tried to locate the plane. They did so successfully. The Army Chief of Staff, General Malin Craig, was quoted as saying that he never would have believed such a thing possible.

There was a curious footnote to this historic event.

Dr. Harold Zahl (1904-1973), Director of Research and inventor of the radar's vacuum tube components, said that the demonstration for the distinguished guests was not entirely as suc



Soldiers use semaphore and four-foot signal flags. The semaphore system of flag signaling, which uses two flags, was invented by the French in 1792 and used by the U.S. Army after 1800. Albert J. Myer, the founder of the Signal Corps, invented the flag and torch method of signaling, which came to be known as wig wag. Meyer's method was based upon a method of communications he devised for the deaf.

cessful as everyone at first thought.

Zahl related that when the visitors departed after the "successful" tests, engineer John Hessel said it seemed strange that most of the aircraft detections were made by the number-two searchlight.

Zahl met the operator of that searchlight, a Corporal who told him, "remember that low white cloud during the night of the tests, the one hanging over Red Bank? Well, with the town lights shining on the cloud, it



U.S. Army Photo

Doctor Harold Zahl

was possible for me, with my own eyes, to see the dim outline of the plane before you turned on your control light. There I was, tracking the plane with my binoculars, right smack on the cross hairs. Couldn't help but make a direct hit most of the time when you gave the in-action go ahead.... That new secret gadget is all right. Why, every time you fellows turned on the control light it was pretty close to the target—almost as good as my eyes."

Zahl, acutely aware of the intense competition for program control and funding between the Air Force and Signal Corps, said he made the split second decision to congratulate the Soldier. He concluded, "Whoever heard of ethics in a foxhole?"

After the tests, Fort scientists and engineers went back to their work on radar, which played a critical role in many major



U.S. Army Photo

MG Roger B. Colton

World War II engagements. One example: Fort Monmouth-designed radar sets landed on the beaches of France on D-Day to help protect invasion forces from Luftwaffe fighter attacks.

Fort personnel made another critical decision during the prelude to WWII that helped shape the outcome of that conflict. It



U.S. Army Photo

Soldiers prepare a message for pigeon delivery in the trenches of Europe during operations in World War I.

was COL Blair's successor at the Laboratories, MG Roger B. Colton (1887-1978), who, in 1938, arrived at the historic choice to employ the FM band in all future military radios. Labs at Fort Monmouth had been experimenting with FM transceivers since 1936, but they also had continued developing AM radios. While AM had

**"Past,"
Continues
Next
Page »**



U.S. Army Photo

COL Thomas K. Trigg (standing) and Doctor Walter McAfee at the Diana Radar site.



ABOVE: The AN/MPQ-10 counter-mortar radar, used in the Korean War.



U.S. Army Photo

A Soldier uses a squad radio receiver and transmitter.

the advantage of longer range, FM was far less susceptible to signal interference. Which format should the military adopt? Colton picked FM — a move that gave the Allies a significant advantage during World War II.

The inventor of FM radio, Edwin H. Armstrong (1890-1954), said in a letter that Colton's choice was "the most difficult decision anyone ever had to make in the history of radio.... I ... hope that when this war is over, what your organization accomplished here can be duly laid before the world and properly acknowledged."



U.S. Army Photo

LTC John Dewitt

But radar and radio did a great deal more than just help win wars.

In fact, the advent of the Diana radar ushered in the space age when Fort Monmouth personnel bounced the first electronic signals off the moon at Camp Evans in 1946. LTC John Dewitt (1906-1999), Director of the Evans Signal Laboratory, ran the project — which was dubbed "Diana," in honor of the Greek goddess of the moon. Dewitt had conceived the idea of bouncing signals off the moon as an amateur astronomer in 1940 when it occurred to him that it might be possible to reflect ultra short waves from the moon, opening up study of the upper atmosphere and possibly a new method of world communication. The mathematical calculations of Dr. Walter McAfee (1914-1995), a physicist in the Theoretical Studies Group at Evans, made Dewitt's idea a reality. The Diana experiment proved the feasibility of communicating across vast distances of space and facilitated the development of satellite communications and mis-

sile guidance systems— an achievement that some newspaper reports at the time placed in the same scientific category as the development of the atomic bomb.

The next 60 years saw even more feats of science and engineering at the Fort: Advances in mortar locators were made during the Korean War; night-vision devices and squad radios were developed and fielded during the Vietnam War, and frequency-hopping tactical radios proved critical in Operation Desert Storm.

Over the years, Fort technologies have proved just as indispensable during times of national emergency as they have during combat. Rescue workers used warfighting technologies from Fort Monmouth in the early days after 9/11 in an effort to locate survivors trapped in the rubble at the World Trade Center, to monitor the stability of buildings, and to rebuild communications networks.

Whether advancing technology, creating and modifying software, procuring hardware and services, accelerating fieldings, or rushing spare parts to the war zone, the Fort Monmouth team has always performed with distinction. This special community of scientists, engineers, program managers, logisticians, and support staff has

given the Army the world's best, most reliable systems for extracting, digesting, and communicating battlefield information. Today's networked capabilities supporting American troops in Southwest Asia include advanced systems for communications, situational awareness, command and control, and force protection.

From World War I to the Global War On Terror, communications and electronics innovations like these pioneered at Fort Monmouth have given the American Soldier and America's allies a decisive edge over their enemies and have contributed to saving countless lives. 

BOTTOM LEFT: A Soldier uses the frequency-hopping Single Channel Ground and Airborne Radio System.

BOTTOM RIGHT: Rescue workers using infrared cameras attached to PVC pipe search through the rubble at the World Trade Center site.



U.S. Army Photo



U.S. Army Photo



U.S. Army Photo

Michael Anthony, when he was the CECOM LCMC senior command representative, stands in front of Stryker vehicles in Iraq.

C4ISR Rep comes to rescue of cavalry

A day in the life of Team C4ISR's senior representative

By Renita Foster
CECOM Correspondent

Michael Anthony, computer scientist, CERDEC, Command & Control Directorate, Battle Command Division, had been in Kuwait for less than two weeks when his cell phone rang late that night. Calling was the aide to BG James Hodge, the Army Material Commander (AMC) Forward.

Alerted that CECOM's help was urgently needed, Anthony, the Team C4ISR Senior Command Representative in Southwest Asia, contacted Glen McPherson, logistics assistance representative (LAR). Together, they scrambled out to find out how they could best solve the crises.

Based in Germany, the 2nd Stryker Cavalry Regiment (2nd SCR) was in Kuwait readying equip-

ment and training Soldiers to head north for their tour in Iraq.

While it was AMC's job to prepare the Stryker vehicles, the primary major support commands responsible were the U.S. Army Tank and Automotive Life Cycle Management Command (TACOM LCMC) and the CECOM LCMC.

The Stryker vehicles had been offloaded from ships and brought to Camp Arifjan in Kuwait for the uparmoring process. The procedure had been delayed because of the late arrival of the vessel and the lack of trained labor and required tools.

To get the mission back on schedule, the entire AMC Team in Kuwait began pitching in to get the unit and their equipment prepared for movement "across the berm," (the Kuwait-Iraq border, created with bulldozed mounds of soil and four to five strands of concertina barbed

wire).

As vehicles were completed, they were immediately shipped north to Camp Buehring, Kuwait to link-up with the Soldiers and perform final training exercises. One of these exercises included a Digital Exercise (DIGEX) to test out the vital communications equipment.

"This process was running around the clock – 24 hours a day," said Anthony. "At one point in the DIGEX it was discovered that not all of the vehicles' communications systems were working."

Once the problem was isolated, it was discovered that some cables were either missing or damaged enroute or during the uparmoring process.

Additional cables were not available as the unit did not have spares and the Kuwait facilities did not have the unique, Stryker-specific cables in inventory.

It was also late at night and on the Muslim weekend so purchasing cables or spare parts on the local economy was not an option. Waiting to contact suppliers in the states and having replacements sent would take at best, days.

"Sending the Cavalry north without High Frequency radio communications was not an option," said Anthony. "And the unit was ready to move out now!"

After calculating the types and quantities of cables needed, Anthony assembled a small team and began canvassing the other units at Camp Arifjan.

Between the donations from various organizations (including the Aviation Classification Repair Activity Depot (AVCRAD) and their own items, the team successfully supplied crucial instruments such as coaxial cables and couplers. The vital cables were assembled, tested, and rushed north to Camp Buehring.

Anthony declares working under pressure to support an operational unit is one of the best opportunities to learn, grow, and succeed. CECOM ensured the 2nd SCR was fully deployable and met their rotation schedule with fully operational C4ISR systems.

"I truly mean it when I say that this was just one example of a Team C4ISR success story and I'm confident there are hundreds of similar ones that go untold," said Anthony.

CECOM LIFE CYCLE MANAGEMENT COMMAND

Logistics & Readiness Center

MISSION: *The mission of the CECOM LCMC LRC is to provide global C4ISR logistics support to the Warfighter and coalition forces in a timely, cost effective manner. We prepare and sustain them for combat and reset our forces to combat readiness following deployment*

Employing over 1,700 civilians and 36 Soldiers, the CECOM LCMC LRC serves as the National Inventory Control Point, National Maintenance Point, and production and industrial base manager for over 54,000 items. The LRC has a budget of over \$3 billion and manages \$4 billion in inventory. The LRC prepares and sustains our forces for combat and resets our them to combat readiness following deployment.

This mission is accomplished through rapid acquisition, maintenance, production, fielding, new equipment training, and operation and sustainment of CECOM LCMC equipment. The center's customers include; project managers, program executive offic-

ers, Army Sustainment Command, life cycle management commands, Army, Navy, Air Force, Marine Corps Coast Guard, other Department of Defense and Federal government agencies as well as foreign governments.

Specific services provided by the LRC include; acquisition and repair, program management, production quality management, configuration management, technical data management, inventory management, integrated logistics planning, sustainment support, foreign military sales, communications security, technical manuals, modifications, new equipment training, technical assistance, and readiness analysis.



LOCATION: *Headquartered at Fort Monmouth, N.J., the LRC has activities in Arizona, Virginia and Texas, as well as Logistics Assistance Representatives and others with Army units operating worldwide.*

Army TEAM C4ISR



DAVID SHARMAN
SENIOR EXECUTIVE
SERVICE

Mr. Sharman is a native of the Buffalo, New York area. Upon graduation from the State University of New York College at Buffalo with a B.A. in History, Mr. Sharman was commissioned as a Second Lieutenant in the United States Marine Corps through the Platoon Leaders Class program. During his tour of duty with the United States Marine Corps, Mr. Sharman held a variety of aviation logistics positions in the Fleet Marine Force. Upon leaving the United States Marine Corps, Mr. Sharman returned to the Buffalo area to complete his studies for a Masters of Business Administration at the State University of New York at Buffalo. He joined Bell Aerospace Textron and was a member of the management team that built the AN/SPN-42 Microwave Landing System, LACV-30 Air Cushioned Vehicle Lighter System and the liq



Key Leader Profile

uid fuel propulsion system for the Minuteman III and MX program.

Sharman came to the U.S. Army Communications and Electronics Command from Textron in 1983 and has held a series of progressively responsible positions in areas of readiness analysis, field technical assistance, weapon systems management and international security assistance efforts. He led the CECOM Logistics Assistance Program from 1988 to 1996 and later served as the command's Deputy Director for Readiness. He served in Southwest Asia in 1991 as Senior Command Representative to the US Army Central Command for which he was twice awarded the Department of the Army Superior Civilian Service Medal and the Desert Storm Service Medal.

Sharman led CECOM's Command, Control Systems and Avionics Directorate from 1998-2000 performing a full range of weapon systems management responsibilities in support of the Fort Monmouth and Redstone Arsenal acquisition communities. As Director of Security Assistance from 2000-2005, Mr. Sharman was responsible for executing the Security Assistance mission for CECOM and the Fort Monmouth team. These duties include foreign military sales and providing advice to U.S. Allies and coalition partners on Command, Control, Communications, Computers, Sensors, Intelligence and Radar Systems (C4ISR) for both standard U.S. military and commercial systems. During his tenure as Director for Logistics and Engineering Operations from 2005-2006, Mr. Sharman was responsible for integrating and implementing the command's enterprise approach to logistics and sustainment engineering to include product line funds management, development of supply and maintenance policy and procedures, Resetting the Army's C4ISR, acquisition technical data, depot workloading and logistics initiatives affecting the total weapon systems life cycle.



U.S. Army Photo

Larry Cockrell, CECOM Long Haul Transmission Logistics Assistance Representative, checks connections on the control box of a 6-foot LHX Tactical Satellite antenna in Balad, Iraq in 2003.

Key to logistics found in good relationships

By Timothy Rider
Spectra Editor

On any given day, somewhere on this planet, much is happening with the CECOM LCMC Logistics and Readiness Center (LRC). How much? The numbers do the talking.

Each day, on average, the LRC's 1,913 Army civilian employees and 33 military personnel handle more than 675 requests for technical assistance. They open 168 repair orders; they process 1,600 requisitions and 2,300 receipts. Its associated depots (at Tobyhanna, Pa. and New Cumberland, Pa.) ship 1,340 items to Soldiers and units worldwide, and purchase \$5.2 million in spare parts.

The LRC manages 49,464 National Stock Number (NSN) items. "We manage approximately 50 percent of the NSNs within the Army Supply System" said LRC Associate Director, Richard F. O'Donnell.

"There are over 110 CECOM managed items on a single airframe," said Deputy Director of the LRC Readiness Directorate, Larry Cropp.

The LRC's numbers also talk to "technological pace of change," which is, according to LRC Director, Dave Sharman, what makes the C4ISR commodity unique in terms of logistics and readiness: Each day, the LRC averages 24 acquisi-

tion start ups; fields five new systems with its project manager partners and conducts five new equipment training classes. Each day, one hundred forty-nine pieces of equipment are delivered as part of unit reset; conversely, 50 systems are disposed.

"Army Transformation takes place a part at a time," said Sharman.

Numbers speak to protecting information on C4ISR systems: The LRC's Communications Security Logistics Agency generates 22 new keys as part of the Electronic Key Management System, and it handles 44 key management related help desk calls.

The LRC also manages \$1.18 billion in foreign military sales each year to support friendly nations through the Army's Security Assistance program.

Indeed, numbers are important to Sharman. He talks about LRC numbers from a slide in the LRC overview presentation. "It's imperative that people understand the heavy volume. It's a cycle that never stops," said Sharman. "The numbers demonstrate that."

Numbers, however, do not have the role they once did at the LRC. "Our focus used to be on the eases – the National Stock Number." No more.

"LRC," Continues Next Page





Philip R. Merkel, CECOM Information Technology & Switch Logistics Assistance Representative, assists a 32nd Signal Brigade Soldier with the testing and installation of an AN/VIS-3 vehicle intercom system in Balad, Iraq in 2005.

"Now, our focus is on the unit and the commodity as an integrated weapon system," said Sharman. "And our success is built on relationships — relationships with the Soldier, relationships with the units, and relationships with our project manager partners."

We still have to look at the eaches, but it needs to be in the context of what our customers in the fight and getting ready to get back in the fight need from us."

"It's imperative that we have the credibility with the unit that comes with delivering when you say you're going to deliver, and that you develop the trust and confidence that you will come through for them," said Sharman.

Events in the past few years have contributed to a broadened focus at the LRC: Operations in Southwest Asia, the Army's transformation initiatives, the conversion from a division focused to a brigade-focused modular Army, and the Army Force Generation Model, known as ARFORGEN. In ARFORGEN a unit's changing needs are closely followed and met as it proceeds

through the cycle of preparing for deployment, deploying, operating, returning and resetting.

Before ARFORGEN, logistics support was based on the commodities and projections of average monthly demand. Now "we have more of a brigade focus," said the LRC Associate Director for Resources, Carl D. Anderson.

"We've gone from being a wholesale provider to a retail provider. The way we operate now is integrated into the units' schedules," said Sharman, who explained that during the time when their focus was as a wholesale provider, the LRC dealt with personnel in Army divisions who performed a myriad of logistics tasks for their associated brigades. Now, as a "retailer," the LRC deals directly with the units themselves and performs logistics tasks that were once performed by division and corps logistics elements.

The LRC also assumed the sustainment and maintenance mission for fleet operations at Fort Huachuca and Fort Gordon, which refers to the fleet of C4ISR equipment that is used at U.S. Army Training and Doctrine Command schools where

Soldiers are trained on new equipment, said Anderson.

For their new retail role, the LRC established its Logistics Operations Cell (LOC) in January, 2007. "The LOC role is to manage the brigade customer day-to-day from a commodity perspective," said Sharman. "It's about ensuring goods and services flow from the industrial base to the battlefield."

"We track each brigade within the headquarters now," said Sharman, which includes not only parts and end items but also questions and the responses given. "Our approach now ties back to the timelines that are critical to the unit."

"Typically there is only 18 months or less between a unit coming home and when they have to be ready for their MRX (pre-deployment mission readiness exercise)," said O'Donnell. "There's a lot to be accomplished in a very small window of time."

The LRC presence takes a number of different shapes. The presence is worldwide in order to maintain relationships with and to main



U.S. Army Photo

tain a working logistics chain for the units.

CECOM LCMC senior command representatives who work for the LRC are tied to and rated by an Army field support battalion (AFSB) commander, said O'Donnell. Three such representatives are located in Southwest Asia. One is located in each of the following locations: Germany; Fort Lewis, Wash.; Rock Island, Ill; Fort Bragg, N.C.; Fort Hood, Texas and in Korea.

"We spend a lot of time developing our senior command representatives. It all starts with having the right leader empowered to do things on the ground," said Sharman.

Army divisions are usually associated with an Electronic Sustainment Support Center, a carefully managed center where government civilians, depot personnel and contractors work side-by-side to maintain commodities to "10-20" maintenance standards, according to O'Donnell. The LRC maintains a logistics support element tied to divisions and provides logistics and reset action officers in the field, who interfaces with the division on a day-to-day basis to assist with all C4ISR-related matters.

Reset liaison officers operate in Southwest Asia and are tied geographically to the AFSB at

Fort Hood. "Our reset people know what equipment is returning from Southwest Asia, by brigade combat team when it shall return and in what quantities." They make sure that information gets sent to the reset facilities so that they're completed on time, to a certain quality standard and meet the unit's deployment schedule," said O'Donnell.

An ARFORGEN logistics officer who deals with issues related to the five ARFORGEN areas is attached to each brigade.

Soldiers will most likely deal with Logistics Assistance Representatives (LARs) – a special breed of Army civilian employee that live, exercise, train, and deploy with the unit and interface between units and the LRC to acquire parts and perform repairs.

The LARs, however, are much more than field repairmen, said Cropp, formerly a LAR himself. "LARs want Soldiers to be self-sustaining. LARs make every maintenance event a training event."

"The Soldier knows he or she is going to learn something standing next to a LAR. If time is on their side they like to say, 'Okay Sergeant Smith, open the book and let's walk through this together.' It goes back to the proverb, teach a man to fish, and he eats for a lifetime."

CECOM LCMC LARs must qualify for a security clearance, pass a physical from Army Occupational Health, and they must sign a mobility and emergency essential agreement that means they are subject to being deployed when and for however long they are needed in accordance with the government needs, according to Cropp.

"I have people who are on their sixth and seventh deployments," said Cropp. People sign up for this job knowing the requirements."

To be hired, a CECOM LCMC LAR must also have a technical background in one of seven areas: Switch-IT-Radio; Long-haul Transmission; Avionics; Sensor; Power and Environmental, and Standardized Army Management Information Systems.

The LAR program will be expanding to meet readiness and sustainment needs of the modular force. Currently 280 LARS are based in 46 field locations throughout the Army, with authorized increases of 30 for each of the next two years. The LRC is planning for a 500-LAR force.

Sustaining the Future

Numbers also speak to the cost of wartime operations. This fiscal year the LRC expects to spend \$1.7 billion in Army Working Capital Funds for the repair and acquisitions of C4ISR secondary items. It spends nearly \$900 million in Operations and Maintenance Army funds for depot-level maintenance used to reset the force.

"We're constantly looking at how to reduce costs," said Sharman, and in so doing, the key is once again, relationships.

That relationship is formed between the lo-

gistician, who after progressing in their careers to the journeymen stage, may be "married-up" with project or product managers to develop the logistics plans for new systems, according to Anderson. These logisticians are called Integrated Logistics Support managers.

"Early in the equipment's life cycle, we should start to develop the logistics support concept – what is the Warfighter going to do? How is he going to support it? Can he lift it? Are Soldiers going to repair it? Are contractors going to repair it? Once you get to Milestone C (the decision point for awarding a production contract) if you haven't identified what will support that end item, it's too late," said Anderson.

"Often, we have our top logisticians supporting the PMs, and they're there to give the best logistics support advice," said Anderson. Their advice should entail the newest concepts for sustainment and readiness to help reduce long-term sustainment costs either in dollars or in Warfighter effort, such as condition-based maintenance (CBM) and performance-based logistics (PBL).


Condition-based maintenance is, "actively and prognostically monitoring the health of the system — building a detailed set of parameters to tell you when to perform maintenance and replace parts," said Anderson.

Performance-based logistics leverages the best aspects of public and private sector capabilities to optimize availability while minimizing cost. "Instead of telling the contractor how to do something, you tell them the result and reward them for achieving or surpassing it."

The LRC also uses its champions: senior level personnel who champion emerging concepts within the LRC and within program executive offices, said Anderson. The LRC has PBL, CBM Industrial Base and Total Ownership Cost Reduction champions.

The LRC's Industrial Base Champion finds the best ways to deal with obsolescence issues in the manufacturing base and works with both project managers and industry, making specific recommendations to encourage best practices in the industrial base, said Anderson.

The LRC's Total Ownership Cost Reduction Champion helps find ways to save money by finding cheaper alternatives to replacing parts. "New electronic parts are sometimes cheaper to produce, have fewer components, are therefore less likely to fail and are faster and more capable," said Anderson.

"With C4ISR there is a need for continuous technology infusion. It has high obsolescence rates, and that places a greater emphasis with us on original equipment manufacturers," said Sharman. "Readiness is making sure we have sustainable equipment that can be repaired in a minimal amount of time, with enhanced reliability as well," said Sharman. "It's a Warfighter capability on a sustainable basis" 

Depot earns Army Superior Unit Award

By Jacqueline Boucher
Tobyhanna Correspondent

TOBYHANNA ARMY DEPOT, Pa. — Hundreds of depot employees watched as one of the service's most senior officers presented Tobyhanna with its first Army Superior Unit Award during a ceremony here Jan. 28.

GEN Benjamin S. Griffin, commanding general of the U.S. Army Materiel Command, presented the award.

Depot leaders and distinguished guests joined the general in congratulating everyone from the shops, to the Forward Repair Activities worldwide, to those serving side-by-side with military personnel in Iraq, Afghanistan, Kosovo, Korea and locations throughout the world where Warfighters are assigned or deployed.

The Army Superior Unit Award recognizes outstanding meritorious performance of a unit in a difficult and challenging mission, under extraordinary circumstances.

"This significant military honor reflects organizational excellence and unrelenting mission focus and accomplishment," said COL Ron Alberto, depot commander.

Alberto explained that the award recognizes every member of



Photo by Tony Medici

The Army Superior Unit Award recognized work accomplished by the Tobyhanna work force from October 2005 to September 2006.

the work force, from apprentice to experienced technicians.

The Army Superior Unit Award recognized work accomplished from October 2005 to September 2006 in support of programs such as unit reset, Blue Force Tracking (BFT), Firefinder, Medical Communication for Combat Casualty Care (MC4) and the continued business transformation process through Lean Six Sigma methodologies.

The reset effort supported hundreds of critical programs, including the tactical satellite systems, aircraft survivability equipment, communications security equipment and electro-optic & night vision equip-

ment. In addition, the depot produced more than 13,000 BFT installation kits with a total production exceeding 29,000 kits and spare assemblies.

Employees also completed 33 AN/TPQ-36 Firefinder Radar System Antenna Transceiver Group radars and nine AN/TPQ-37 Firefinder Radars.

Depot personnel began work on the MC4 mission in 2006. Responsibilities included the repair, sustainment, and integration of the system to ensure every Soldier, Sailor, Airman and Marine had a comprehensive medical record of illness and injury.

Tobyhanna provided on-site technical and logistical support in Southwest Asia to the Product Director for Counter Remote Controlled Improvised Explosive Device Electronics Warfare countermeasure systems.

More than 30 field service representatives and installation personnel deployed to support the mission at installations in Southwest Asia.

The High Tech Regional Training Support/Maintenance Facility graduated 452 Soldiers. The site offers courses that support 23 military occupational specialties by furnishing classroom and hands-on training.

Techs break space speed barrier

By Kashia Simmons
CERDEC Public Affairs
Officer

Wideband Global Satellite 1 (WGS-1) IRON 1462 demonstrated unheard of data transfer rates during a capacity test at L3-Com West in Salt Lake City, Utah, Feb. 25.

The Communications-Electronics Research, Development and Engineering Center's technical lead selected L3-Com West in conjunction with a satellite terminal from the existing SATCOM fleet to couple with an advanced L3 experimental satellite modem to reach data rates of 440 megabits per second over satellite. Data enriched transmissions meet-

ing or exceeding this data rate could not be verified traversing a satellite previously.

While these high data rates are impressive in the radio frequency domain, in the end it wasn't the satellite that was the limiting factor, said Rick Dunnegan, CERDEC Space and Terrestrial Communications Directorate Joint SATCOM Engineering Center (JSEC) technical lead.

The JSEC concluded in a briefing following the test, "the WGS-1 satellite demonstrated the ability to support well beyond both the common and uncommon data capabilities currently available in the SATCOM ground segments any-

where in the world at the present time."

"WGS-1 supported data rates beyond the advanced L3 developmental satellite modem's ability to count errors in near real time.

We wanted to see how far we could go with it, and at that particular moment, that was the best we could do on the ground," Dunnegan said."

The power, capacity and flexibility of this new WGS satellite reflect advanced satellite capability the Government has never had before."

CERDEC's JSEC is the executive agent for test and evaluation for the WGS, which was launched in October.



U.S. Army Photo

After breaking their world record (left to right) Fritz Fisher, Josh Kostial, Rick Dunnegan, Greg Donahue, Bill McIntire and Robert McManus stand in front of an Army transmission system.

Blue Force Tracking kits top 50,000

By Anthony Ricchiazzi
Tobyhanna Correspondent

TOBYHANNA ARMY DEPOT, Pa. — Tobyhanna passed a milestone in producing kits for a key system that enhances situational awareness on the battlefield.

In October, technicians in the Systems Integration and Support Directorate (SIS) produced the 50,000th Blue Force Tracking installation kit for the Army and Marine Corps.

The system provides situational awareness and helps reduce the risk of fratricide. Blue Force Tracking (BFT) allows Soldiers in the field to see where they are via maps displayed on video monitors. It also pinpoints the location of other BFT-equipped units. Field commanders with BFT can observe the same data to maneuver units to more strategic or safer positions. Soldiers and commanders can communicate with each other through radio and e-mail sent by a satellite, which also provides global positioning information.

BFT is composed of computers using Force XXI Battle Command Brigade-and-below software, video monitors, Position Location Ground Radios and satellite antennas.

The depot role includes design and manufacturing of the BFT kits by depot personnel in the Production Engineering and SIS directorates. Personnel from all branches credit teamwork and Lean Six Sigma for being



Photo by Steve Grzezdinski

Charlene Nicholson, electronics technician, uses a Cirris table top cable tester to test a cable used in various Blue Force Tracking Kits.

able to meet the schedule.

"Employees are producing hundreds of kits per week between multiple branches," said Joe Healey, a branch leader. "We produce several different kits for shelters, Humvees, trucks, Stryker vehicles and the new MRAP (Mine Resistant Ambush Protected) vehicles.

Electrical worker Bob Olshefski remarked that the people in this mission put quality before quantity. "When Soldiers plug that system in

using our kit, the system works," he said.

Olshefski works in the Electrical Fabrication Support Branch.

"We are exceeding the demand for the top three priority kits and meeting demand for all other types of kits," said Debbie Shea, Manufacturing Scheduling Division chief, adding that Tobyhanna produced thousands of spare cables last year alone and will produce thousands more in fiscal year 2008.

Team C4ISR six named to 'Fed 100'

Five employees from the Program Executive Office (PEO) for the Enterprise Information Systems (EIS) and the senior officer for the PEO Command, Control and Communications Tactical (C3T) were recognized at the Federal Computer Week (FCW) 2008 Federal 100 Awards banquet in McLean, Va. In its 19th year, FCW annually recognizes 100 individuals in government, industry, and academia who make a significant difference in their organizations and influence how the Federal Government buys, uses or manages information technology.

The theme for this year's program, "Agents of Change," honored individuals for their risk-taking, vision and pioneering spirit in the federal IT community.

BG Nickolas Justice, PEO for C3T, was credited for his use of

open-source technologies and for the Army's adoption of an industry-standard systems engineering process that ensures brigade combat teams are ready to deploy, are supported while they are deployed and are reset after they return from deployment.

Lee Harvey, deputy program executive officer for Enterprise Information Systems, is responsible for \$700 million in annual obligations for medical, personnel, acquisition and other Defense Department combat support systems. He was cited for his exceptional ability to effectively communicate government needs to industry and industry solutions to government.

Ryan Loving, operations manager of the Army's Medical Communications for Combat Casualty Care organization at Fort Detrick, Md, was

recognized for successfully equipping key medical treatment facilities in Southwest Asia with handheld MC4 battlefield medical collection systems, including the Air Force Theater Hospital in Iraq.

Thomas Neff, deputy product manager for Joint Automatic Identification Technology, was honored for his efforts in providing critical supply-support for ground commanders. Working with a wide array of partners, Neff established a network of 3,300 radio frequency identification sites so military commanders could accurately track materiel shipments.

Diane O'Connor, deputy project manager of the Logistics Modernization Program (LMP) at Fort Monmouth, N.J., played a major role in bringing the LMP program into compliance with the Federal Financial Management Improvement

Act. She also established an LMP Center of Excellence which significantly enhanced effective strategic program management, thereby increasing stakeholder confidence and user acceptance of the system.

John Swart, product director for the Army's Technology Applications Office in Fort Detrick, Md, created a contracting portal for the Joint Special Operations Command in 2007. The Web application allows special operations components to track their projects' progress, including contracting status and funding.

"We are extremely proud of the excellent job these individuals have done for the Army, PEO EIS, and the warfighters," said Gary Winkler PEO EIS. "Being selected as a Fed 100 recipient is a reinforcement of their hard work and dedication to this organization."

SPOTLIGHT CECOM LIFE CYCLE MANAGEMENT COMMAND Software Engineering Center

MISSION: *Deliver life cycle software solutions that ensure warfighting superiority and information dominance from the battlespace through the sustaining base*

Innovative software engineering products and services are driving forces behind today's Warfighter readiness and tomorrow's force transformation. CECOM LCMC's Software Engineering Center is at the ready, actively involved across the spectrum, enabling force and business transformation. SEC delivers life cycle software solutions that ensure warfighting superiority and information dominance.

SEC's software professionals are stationed worldwide, including on the frontlines, to provide the full breadth of enterprise system acquisition and sustainment support. From business solutions to battlespace systems, SEC's 3,000 military and civilian staff members support more than 200 systems for the Army, Navy, Air Force and Marines, as well as the

Office of the Secretary of Defense and other Defense agencies.

SEC's commitment to excellence is evidenced through the deliverance of full Life Cycle Software Engineering support to the Warfighting community. LCSE unlocks the technique of developing information systems through a multi-step process that spans the investigation of initial requirements through analysis and design to implementation and maintenance. SEC provides the products and services to support data efficiency and mission-critical interoperability through all phases of LCSE, including system development and demonstration, production and deployment and operations and support.



LOCATION: *Headquartered at Fort Monmouth, SEC also operates out of Forts Lee and Belvoir, Virginia, Fort Sill, Oklahoma, and Fort Huachuca, Arizona. SEC offices are in Pennsylvania, Missouri, and New Jersey. Supporting field sites are found in DoD installations throughout the Continental U.S.*

Army TEAM C4ISR



STEPHEN F. KOVACS

Stephen F. Kovacs was assigned as the Acting Director of the CECOM LCMC Software Engineering Center, effective Feb. 5, 2007. In this capacity, he leads the command's efforts to provide state-of-the-art software engineering products and services throughout the Army and the Department of Defense.

Prior to this assignment, he served as the Deputy Director of the SEC since May 2000.

Prior to that appointment, Mr. Kovacs served as the Deputy for the Command, Control, Communications, Computers, Intelligence Electronic Warfare & Sensors (C4IEW&S) Directorate within the SEC. In that position, he was responsible for program management of the Directorate's mission of providing software engineering life cycle support for over 165 battlespace systems



Key Leader Profile

throughout the Army and the Department of Defense. This support included system software engineering for communications (tactical and strategic); command and control; intelligence electronic warfare and sensors; intelligence fusion; avionics; fire support programs, and worldwide technical support to deployed systems. In addition to managing the government and contractor engineering staff primarily located at Fort Monmouth, Fort Huachuca and Fort Sill, his responsibilities included management of the SEC European Software Support Office, Seckenheim, Germany, and the Korean Software Support Office, Seoul, Korea. Prior to this assignment, 1992 through 1996, he served as chief of the Communications Software Engineering Support Division. From 1982 through 1992, Mr. Kovacs held positions as branch chief, team chief, and project engineer within the SEC organization.

During the period 1975 through 1982, Mr. Kovacs was an electronics engineer in the U.S. Army Communications-Electronics Command Research & Development Center Comm/Automated Data Processing laboratory, with project officer responsibilities for research and development activities in computer operating systems, computer security, software engineering and acquisition support to various project managers.

Mr. Kovacs has received numerous awards for his achievements, to include the CECOM Leadership Award, Executive Category, and most recently, he was a recipient of the Top Ten C4ISR Personnel of the Year for 2006 Award.

Mr. Kovacs was awarded a Bachelor of Science degree in Electronics Engineering from the University of Dayton and a Master of Science degree in Computer Science from Fairleigh Dickinson University. He has been a member of the Army Acquisition Corps since 1994.



Photo by Timothy L. Rider

Advanced Field Artillery Tactical Data System operator, PFC George Dick (foreground), takes notes on a contact report from a UH-60 Blackhawk helicopter from the fictional town of "Wadi Al Bashah" while SPC Martin Arthur participates in a collaborative session with other battalions using Command Post of the Future during training at Forward Operating Base Anvil at Fort Polk, La. in August 2007. Both Soldiers are part of the 2-4 Infantry, 4th Brigade Combat Team, 10th Infantry Division.

Sometimes, the software *is* the system

A commander in a Tactical Operations Center issues orders. A supply sergeant at a forward operating base needs rations. A harbormaster patrols a wharf for security threats. Doing so, each turns to the computer screen, ...

By William Larsen
SEC Correspondent

Most people are aware of the Army's increased reliance on computer systems and software to help meet mission-critical information needs. In the field and especially in combat, getting the right information at the right time can make a world of difference for today's Warfighter. But what many may not know is that the CECOM Life Cycle Management Command (LCMC) Software Engineering Center (SEC) provides much of the vital software expertise for the increased emphasis in support of the Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) required in today's digital environment.

SEC's mission is to deliver life cycle soft-

ware solutions that ensure warfighting superiority and information dominance from the battlespace through the sustaining base. SEC works diligently to provide innovative products and services to the Department of Defense (DoD) to support the Warfighter. "It's interesting," says Stephen F. Kovacs, Acting Director of the SEC. "If you mention SEC to a senior officer or program manager within the Army, they may not recognize the name right away. But if you talk about any number of the systems our organization has contributed to, you'll often see instant recognition."

To date, SEC has contributed to a variety of systems both for business and combat needs.

"It may seem odd to say, but supporting our

"SEC," Continues Next Page





Photo by Timothy Rider

Major Curtis Bailey, assistant product manager for tactical battle command, conducts an operational vignette in a demonstration of battle command capabilities hosted by the Software Engineering Center in March 2007.

Warfighter starts in a business environment," says Theodore Dzik, SEC's Deputy Director. "It is equally important that we have the right systems in place supporting our business processes as we do for our battle space ones."

SEC supported-systems include such business applications as the Logistics Modernization Program and the Army Food Management Information System, as well as battle space systems like the FireFinder and Joint Network Node. These systems are currently in use by Soldiers, Sailors, Airmen, Marines and DoD civilian employees both in garrison and forward deployed to Iraq and Afghanistan. SEC currently has an annual budget of \$800 million and works on 259 systems with clients within the Army, other services, DoD, and other agencies outside the DoD.

"As people learn what software can do to help them get information, gain efficiencies and streamline processes, our funding and customer base has been steadily increasing," says Kovacs. "The need for sustainable software solutions is growing."

Those growing needs have helped shape

SEC during the past 20 years. The organization started in 1983 at Fort Monmouth, N.J., as the Software Development Support Center with two operating locations and minimal staff. Given greater demand, the group was reorganized in 1996 into its current incarnation, headquartered at Fort Monmouth, and now has a 3,000-member workforce worldwide operating in more than 300 locations within and beyond the continental U.S. In addition to SEC-Headquarters in Fort Monmouth, SEC also operates out of Forts Lee and Belvoir, Va.; Fort Sill, Okla., and Fort Huachuca, Ariz. This is in addition to providing offices in Chambersburg, Penn.; Saint Louis, Mo., and Marlton, N.J., with supporting field sites at Fort Bragg, N.C.; Fort Hood, Texas; Fort Lewis, Wash.; Fort Gordon, Ga.; Fort Campbell, Ky.; Eglin Air Force Base, Fla., and Fort Detrick, Md.

The need for information

"It's generally agreed that, especially in C4ISR, software is becoming a more and more important part of Warfighter systems," states Kovacs. "In many cases, the software itself is the system, especially when you are talking about

command and control."

To this end, SEC provides the Warfighter with computer software applications that can help them gather the information they need to plan and execute decisive mission objectives. Systems like the Global Command and Control System, Distributed Common Ground Station-Army and the Mounted Battle Command on the Move are giving today's Warfighter unparalleled capabilities to collect and analyze information on the ground.

"Compared to past engagements like the Gulf War, our troops in Iraq and Afghanistan have an unprecedented level of situational awareness," noted Dzik. "These systems give our Soldiers the ability to get the right information, and more importantly, get the right information quickly, so they can act decisively."

Total Life Cycle Software Engineering

When Soldiers' lives and well being are on the line, getting it right the first time, every time is critical. SEC uses Life Cycle Software Engineering (LCSE) to accomplish this goal. LCSE starts with an investigation of initial requirements

through analysis, design, implementation and maintenance to determine what is needed. SEC experts help their clients formulate, extract, and manage requirements, which range from ordering rations more efficiently to defeating Improvised Explosive Devices on the battlefield. The engineering team then reviews software architectures and designs, identifies issues and proposes resolutions relating to software development and maintenance, including modifications to meet the ever changing dynamics in today's asymmetrical battlefield. They also design and provide a software support facility. Through the SEC Total LCSE approach, the SEC engineering support helps fortify the systems' software against poor software design, programming defects, and computer cyber-attack, while Field Software Engineers on the ground with the Soldiers and systems provide immediate support to ensure both system and mission success.

"We are there through the whole process," says Kovacs. "We know each system inside and out so that when it is fielded, our field support representatives can train and troubleshoot on the ground while supporting the necessary operation tempo." The SEC LCSE approach not only catches problems early in the multi-step process saving cost, effort, and time to field, but also, and more importantly, delivers a quality system to our Warfighters that meets both their operational needs and is supportable in the field.

This commitment throughout the life cycle gives SEC a unique insight into how to best support today's Warfighter, making SEC the Army's software business leader and our Armed Forces dominant in information and operation systems compared to that of their adversaries.

Pushing interoperability

With so many legacy stovepipe systems throughout the Army and other military branches, SEC is also focused on providing software solutions to enable these existing systems to properly communicate with one another as well as with the new systems being fielded. Current military initiatives in Iraq and Afghanistan are joint and combined, and require communication between different services', agencies' and coalition partners' existing systems, a challenging task at best.

"Operation Iraqi Freedom and Operation Enduring Freedom are joint efforts. The Army, the Air Force, the Marines, the Navy and Coalition Partners, are involved in the fight," said

Kovacs. "You cannot fight jointly unless your systems are interoperable and can pass information to one another."

Interoperability is not just an issue in linking the Army to Navy or Marine systems; this issue also arises in intra-Army systems. Different units may have varied systems, to include commercial-off-the-shelf applications, homegrown applications, or different versions of the same system. All of these are potential barriers that can lead to interoperability issues.

"There were major issues during Desert Storm where Army units could not communicate

assigned missions and tasks.

Interagency information sharing is also a critical concern. In the aftermath of Hurricane Katrina, it is easy to imagine situations where a government agency like the Federal Emergency Management Agency may need to synchronize with the Army Corps of Engineers or the Coast Guard. SEC is working on this kind of interoperability issue as well.

One way they are working to overcome such interoperability obstacles is by hosting an annual inter-service & agency communications exercise called the Joint Users Interoperability

Communications Exercise (JUICE). Utilizing the Joint On-Demand Interoperability Network's (JOIN), which is capable of resolving interoperability issues that can be resourced for many different scenarios, JOIN has the ability to operate in a 24-hours-a-day, seven days-a-week environment. Last year systems from more than 60 government

organizations were successfully networked into a real-world Joint Task Force network to achieve stated objectives and execute common mission threads.

"We created a network that facilitated and replicated mission-related activities," says Dzik. "JOIN allowed us to test the latest technologies to make these different systems interoperate in a realistic environment. It's giving us the information we need to take downrange so we can bring the same types of capabilities to the Warfighter."

JUICE helps participating agencies improve interoperability and security for their deployable network solutions, supporting software and sys

"You cannot fight jointly unless your systems are interoperable and can pass information to one another."

-- Acting Director, SEC, Stephen Kovacs

with one another," notes Dzik. "Since then, we've put in a lot of time and effort to fix those deficiencies and make sure that our systems are doing the job they are supposed to do."

Interoperability issues between different nations are critical in today's operational environment, where coalition operations are more often the norm than the exception. One ongoing program addressing international interoperability is the American, British, Canadian, and Australian Armies' Standardization Program, or ABCA. (New Zealand was officially accepted as a full member in March 2006 but the title remained unchanged as ABCA.) ABCA's focus is on the ability of Alliance Forces, and when appropriate, forces of Partner and other Nations to train, exercise and operate effectively together in the execution of

"SEC," Continues Next Page



Contractors, Ronald Grovell (left) and Paul Jasanovsky work on the Warfighter Information Network Increment One, formerly the Joint Network Node.

tems solutions necessary for homeland defense and Global War on Terror initiatives.

"JUICE provides an excellent training vehicle for operational units," says Kovacs. "It's a dynamic environment that simulates what would happen in a real-world operation, allowing us to assess systems and how they interoperate. And our intent is to use what we learn during the exercise to deliver a true, tested capability assessment to our Warfighters."

Future Software Business Management

Software has become a pervasive resource, growing in importance, complexity and quantity. In providing the Army and DoD a competitive edge, software presents a number of challenges that are broad in scope and impact.

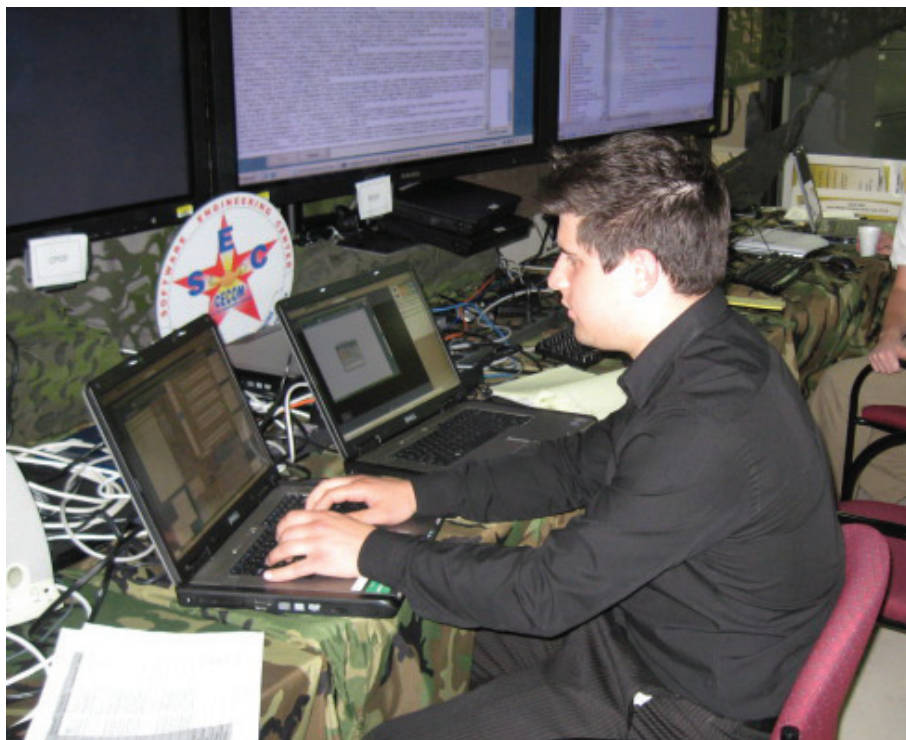
"We can't merely scale what we're doing today," says Kovacs. "That won't get us where we need to be. We need to fully exploit software's potential or be impeded by its limitations."

And one of the ways SEC is addressing this issue is by leading a future software management campaign to ensure success and avoid many of the current system's issues. In addition, to achieve quality software systems, SEC is involved with a software component assembly plan in partnership with the Software Engineering Institute (SEI) at the prestigious Carnegie Mellon University. The resulting software component assembly plan creates a custom set of software "building blocks," which future Army-wide systems can utilize to get new systems into the field faster and at less cost.

The following activities will help meet future software challenges:

- ♦ training senior leadership to recognize and understand the issues, solutions and willingness to change the culture;
- ♦ institutionalizing process improvement and management discipline throughout the Army;
- ♦ furthering software reuse through product lines;
- ♦ assuring an enterprise focus for developing system-of-systems solutions vs. system-by-system solutions;
- ♦ providing software implementers with software experts to assure knowledge required for success;
- ♦ providing Software Quality Assessment and Auditing services; and,
- ♦ promulgating enterprise commercial software license asset management

As the current Army software leader, SEC uses its collective expertise to define those initial building blocks and demonstrate how to piece the blocks together to meet needs across the Army and other organizations. With these components defined, organizations will have access to internal experts who know the technology and how to clear pathways to interoperability with other systems and more predictable system quality.



U.S. Army Photo

Frank Bonavita of the SEC works at the Battle Command Lab.

This campaign will promote a revolutionary, full-spectrum approach by which the Army can improve the way it develops and acquires software. More importantly, this approach will result in advanced software reaching the field quicker, software cost reductions throughout the lifecycle and reducing the logistics footprint. It will also provide Army-wide solutions, assure Army readiness and maximize Joint solutions.

Although the future software concept is only in the initial phases, SEC plans to continue acting as a catalyst for this paradigm shift, ensuring the best systems for tomorrow's Warfighter. The organization was awarded the esteemed Level II of the Capability Maturity Model Integration process improvement model by the Software Engineering Institute, an accolade that shows the organization's proficiency in project, cost and functionality management for its many software systems.

Supporting the Warfighter, wherever he or she may be

No matter what the future brings, SEC's mission is and will remain to actively support the Warfighter community.

Last year, the organization delivered its software products on schedule and on budget. In situations where systems were directly supporting urgent needs for Central Command (CENTCOM) efforts in Iraq and Afghanistan, SEC delivered the necessary solutions on schedule and continued to provide key fixes to those systems at the same operational tempo.

"We're here to ensure that the Army's soft-

ware systems, old or new, will always be able to share information to help the Warfighter get the information he needs when he needs it," says Kovacs.


In addition to the software SEC provides, it also makes available on-the-ground field support representatives who not only train Soldiers to use the systems but offer 24/7 support.

Currently, SEC has more than 500 deployed software field support representatives in Iraq and Afghanistan ensuring that all SEC applications are operational and running smoothly.

"Our people are stationed globally, on the front lines, embedded with the Soldiers, to support current systems," states Dzik. "And they do more than just set up systems or troubleshoot issues.

"They consider themselves part of the units they are attached to and that gives them unique insight into what Soldiers really need. And that can provide us with vital feedback so we can enhance and adjust where needed."

"Our overall job, in peacetime or wartime, is to help the Soldier prepare for whatever may come their way," summarizes Kovacs. "What we do on a day-to-day basis is work to sustain software systems that are out in the field today and tomorrow."

Yesterday, today, and tomorrow - SEC delivers cost-effective, quality life cycle software solutions that ensure Warfighting superiority and information dominance. SEC is an organization that will be an integral part of software engineering for the Army and DoD for years to come. 

U.S., Russian hot link gets upgrade

By Stephen Larsen
EIS Correspondent

FORT DETRICK, Md. - The Detrick Earth Station here, which provides satellite communications capabilities including one commonly known as the Washington-Moscow hotline, now has significantly enhanced capabilities which should extend its life for another 10 years.

The extension of lifespan to the Direct Communications Link between the Presidents of the U.S. and Russia and other capabilities is thanks to a modernization and upgrade project completed in December by a multi-agency team led by the Product Director, Satellite Communications Systems, part of the Army's Program Executive Office, Enterprise Information Systems' Project Manager, Defense Communications and Army Transmission Systems.

The station here provides a number of other dedicated, secure and reliable satellite communications links between the U.S. and Russia, including a link for the U.S. State Department's Nuclear Risk Reduction Center, which is used to exchange information in support of arms control treaties and security-building agreements; a link supporting the U.S. Strategic Command's



Photo by Stephen Larsen

Art Reiff (right), the deputy project manager for Defense Communications and Army Transmission Systems, speaks at a ceremony at Fort Detrick on March 26, as Vern Combs of the 302nd Signal Battalion looks on.

Joint Data Exchange Center initiative to share early warning information on missile and space launches to reduce the risk that a test, experiment or space launch could be misread as a ballistic missile attack; and links for the White House Communications Agency and the Secretary of Defense.

Dan Singleton, project leader for PD SCS, said the project included replacing the Detrick Earth Station's outmoded and logistically

unsupportable modems and electronics equipment with state-of-the-art equipment and overhauling the DES' two 15-meter dishes, including replacing the antennas, reflectors and de-icers.

The upgrade has more than doubled the earth station's communications capacity, according to Vern Combs, the contracting officer representative for the project from the U.S. Army Network Enterprise Technology Command/9th Army Signal

Command's 302nd Signal Battalion. Before the upgrade, the DES was only capable of transmitting and receiving one carrier on one polarization; now, he said, both terminals can transmit or receive multiple carriers using both.

Cathy Young, Product Director for SCS, said that her organization also provided new equipment training, spares and a telephone support line for DES operators to call to help resolve technical issues.

Chris Potter of NETCOM's 21st Signal Brigade said because the upgrade employed state-of-the-art, supportable equipment, it will help to ensure the system's availability. "The DCL is not a normal, run-of-the-mill system," he said. "The purpose of this system is to prevent the outbreak of nuclear war; the customer is the President of the United States. The availability must be 99.99 percent."

"The DCL has been operating with an unprecedented reliability rate for more than 30 years," said 302nd Signal Battalion Commander, LTC Marie Grimmer. "There has not been an outage of the DCL attributed to the DES since 1991, the last upgrade. That didn't just happen; it took the commitment, the dedication, the professionalism, of a team of experts."

CURRENT OPERATIONS

Huachuca engineers bringing wireless to Presidio

By Keith Moore
ISEC Correspondent

FORT HUACHUCA, Ariz. — Army engineers recently conducted an initial survey to determine customer requirements that would upgrade the existing data network at the Presidio of Monterey, Calif. to support a wireless campus for Department of Defense language students there.

The wireless solution will be designed to provide data and video services consisting of adding wireless access to the network enabling the Defense Language Institute students to access video, e-mail and web services from tablets without wires.

"It will enhance the learning experience for students by providing foreign language channels and resources from the network via a wireless tablet," said Dave Premeaux, the primary point of contact for the project from USAISEC.

Engineer, Brad Hvezda, went to the Presidio for several months to assist the Presidio's Director of Information Management (DOIM) and Chief Information Officer (CIO) office with tablet configuration to support the wireless upgrade.

When completed, the network will be capable of supporting approximately 4,000 students.



U.S. Army Photo

Defense Language Institute students at the Presidio of Monterey, Calif.

CECOM LIFE CYCLE MANAGEMENT COMMAND

Tobyhanna Army Depot

MISSION: Sustain and integrate command, control, communications, computer, intelligence, surveillance and reconnaissance systems for the joint Warfighter

Tobyhanna Army Depot is the largest joint C4ISR maintenance facility in the Department of Defense. Tobyhanna's mission is total sustainment, including design, manufacture, repair, overhaul and integration of hundreds of weapons systems for all branches of the Armed Forces.

Platforms supported include satellite terminals, radio and radar systems, intelligence, electro-optics, night vision and anti-intrusion devices, airborne surveillance equipment, navigational instruments, electronic warfare, and tactical missile guidance and control systems.

Tobyhanna is a worldwide enterprise with more than 5,800 personnel. Most work at the depot's modern facilities in northeastern Pennsylvania; Tobyhanna also operates more than 50 Forward Support Locations, wherever U.S. forces are sta-

tioned or deployed.

Tobyhanna is DoD's recognized leader in the areas of automated test equipment, systems integration and downsizing of C4ISR systems. Moreover, the Army has designated Tobyhanna as its Center of Industrial and Technical Excellence for C4ISR, Electronics, Avionics, and Missile Guidance and Control. The U.S. Air Force has designated Tobyhanna as its Technical Source of Repair for Command, Control, Communications and Intelligence systems.

Innovative in its use of Lean Six Sigma, Tobyhanna has earned a Shingo Prize Bronze Medallion for the AN/TPS-75 Radar System and a Gold Medallion for the AN/TPQ-36 Firefinder Radar Antenna Transceiver Group. The depot officially opened on Feb. 1, 1953.

Army TEAM C4ISR



COLONEL RONALD P. ALBERTO

Colonel Ron Alberto is the commander of Tobyhanna Army Depot, the Defense Department's largest facility for the repair, overhaul and integration of Command, Control, Communications, Computer, Intelligence, Surveillance and Reconnaissance (C4ISR) systems. The Depot, located in Northeastern Pennsylvania, employs more than 5,800 personnel.

He was commissioned in the Ordnance Corps following his 1983 graduation from the United States Military Academy at West Point.

After completing the Ordnance Officer Basic and the Explosive Ordnance Disposal (EOD) Courses he moved to his first assignment at the 512th EOD Control Center, Vielsek, Germany. He then attended the Royal British EOD School before taking command of the 3rd EOD Detachment, Augsburg, Germany.

Following command, he was the Ammunition Materiel Officer, 84th Ordnance Battalion



LOCATION: The Army's presence at Tobyhanna, Pennsylvania, dates to 1912, when the Army established an artillery training camp there.



Penn's Lean, mean industrial machine

SPOTLIGHT

By Kevin Toolan
Tobyhanna Army Depot
Public Affairs Officer

From direct support in Iraq and Afghanistan to its sophisticated engineering, test and repair facilities, Tobyhanna Army Depot sustains the joint warfighter's command, control, communications, computer, intelligence, surveillance and reconnaissance requirements.

Established in 1953 as Tobyhanna Signal Depot with a limited geographical mission, Tobyhanna has evolved into the largest C4ISR maintenance and sustainment center in the Department of Defense. Located in northeastern Pennsylvania, the depot is a 5,800-personnel organization with a global presence through a network of 50 forward repair activities. Tobyhanna also is the largest employer in a seven-county area, with a \$2.3 billion annual economic impact.

"Our Tobyhanna team is larger than ever and we continue to grow to accomplish our record mission requirements. Committed to quality and excellence, our talented and dedicated work force is helping to defeat IEDs, reduce mortar and rocket attacks, and increase the situational awareness of our forces on the battlefield," says Depot Commander COL Ron Alberto.

The depot's mission is total C4ISR sustainment, including design, manufacture, repair and overhaul of thousands of systems and components that include satellite terminals, intelligence and radar systems, radios and telephones, electro-optics and night vision, anti-intrusion devices, airborne surveillance equipment, navigational instruments, electronic warfare systems, and guidance and control units for tactical missiles. Tobyhanna is also the DoD recognized leader for automated test equipment, systems integration, technology insertion and downsizing electronics systems.

"The work done here is critical to protecting lives everyday," said GEN Benjamin S. Griffin, commanding general, U.S. Army Materiel Command, at a recent ceremony to recognize Tobyhanna's second Shingo award and to present the Army Superior Unit Award. "You set the standard when it comes to providing outstanding support to the men and women serving at installations around the world."

Tobyhanna's C4ISR mission supports all branches of the Armed Forces. The Army has designated the depot as its Center of Industrial



Photo by Steve Grzedzinski

Matthew Butash, electronics worker, repairs an AIM-9(M) Sidewinder guidance and control section at Tobyhanna Army Depot. Butash is an electronics worker in the depot's Sidewinder Missile Branch. Tobyhanna tests and repairs hundreds of Sidewinder guidance and control systems per year, as well as Maverick missile components.

and Technical Excellence for C4ISR and Electronics, Avionics and Missile Guidance and Control. Similarly, the Air Force has established Tobyhanna as its Technology Repair Center for Command, Control, Communications and Intelligence.

The depot uses nearly two million square feet of production space, of which more than 60 percent is under one roof, enhancing efficiency and material movement. The skill and experience of the depot work force enable Tobyhanna to rapidly shift personnel to adjust to changes in workload in various commodities. Modern facilities including an Industrial Operations Facility, dedicated secure communications (COMSEC)

"Tobyhanna," Continues Next Page»

Key Leader Profile

ion, Munchweiler, Germany. After completing the Ordnance Officer Advanced Course, he attended the University of New Mexico and subsequently served at Redstone Arsenal, Huntsville, Alabama, as an engineer in the Javelin Anti-tank Missile Program Office.

He also served the U.S. Army Missile Command in Saudi Arabia following Operation Desert Storm. He returned to Huntsville and the Javelin Program Office and followed that assignment as Aide-de-Camp to the Commanding General, US Army Missile Command. He departed Alabama for the Republic of Korea, serving in the 2nd Infantry Division as the Division Ammunition Officer and the Division Support Command Supply Officer.

Following his assignment in Korea, he served in project management positions with the Cooperative Threat Reduction Program in the Defense Threat Reduction Agency, Alexandria, Virginia. As a Lieutenant Colonel, he commanded the Lake City Army Ammunition Plant, Independence, Missouri. He followed command as Chief, Ordnance Enlisted Branch, Army Human Resources Command, Alexandria, Virginia. Most recently, he served as the 8th U.S. Army Support Operations Officer in the Republic of Korea.

In addition to his Bachelor of Science degree from the U.S. Military Academy, Colonel Alberto holds a Master of Science degree in Electrical Engineering from the University of New Mexico. He also completed several military courses of study. Most recently, he earned a Master of Science degree in Military Strategic Science from the Industrial College of the Armed Forces. His awards and decorations include the Defense Meritorious Service Medal, the Meritorious Service Medal, the Army Commendation Medal and the Army Achievement Medal.

Colonel Alberto is married to Colonel Donna Alberto. Donna serves as Chief, Human Factors Division in the Office of the Deputy Chief of Staff for Personnel (Army G-1) at the Pentagon.

and satellite communications (SATCOM) facilities, and several specialized test ranges further enhance Tobyhanna's capabilities across the C4ISR spectrum.

"The breadth and depth of C4ISR maintenance and sustainment capabilities are not replicated anywhere else within DoD or the private sector," says Frank Zardecki, the depot's deputy commander.

Tobyhanna uses the largest engineering staff of all Army depots, enabling Tobyhanna to take on a wide variety of design and fabrication projects. In recent years, these include installation kits for the Blue Force Tracking (BFT) system, improved helmet brackets for night vision devices and special systems to support operations that defeat improvised explosive devices.

The BFT system increases situational awareness and reduces friendly fire incidents through use of the Global Positioning System and satellite communications on a wide area network backbone. This allows U.S. forces to pinpoint their locations in relation to other friendly elements and

enemy positions. Tobyhanna has designed and manufactured tens of thousands of kits, which are configured for a variety of platforms from Humvees to the new Mine Resistant Ambush Protected vehicles.

Tobyhanna also has designed and produced

"The work done here is critical to protecting lives every day."
Commanding General, U.S. Army Materiel Command, GEN Benjamin S. Griffin

helmet brackets that are almost four times stronger than the ones they replace and at a cost that is 66 percent lower than the original bracket. "Computer-aided manufacturing software was used to make models of the two (helmet bracket) parts, which were then fabricated in plastic by the depot's Rapid Prototype Machine to prove our design," explained Charlie Niemotka, an engineering technician. Tobyhanna has produced tens of thousands of the brackets since the first

production run in late 2006.

Computer-aided engineering systems expedite and enhance the rapidity of the depot's light manufacturing capabilities. Engineering capabilities also include technology insertion, reverse engineering, development of interactive electronic technical manuals and test program set development.

The depot's recent growth started in 2001 with the completion of the transfer of Air Force ground communications electronics systems from the Sacramento Air Logistics Center, which was directed to close during the 1995 round of defense base closures. Tobyhanna gained 825 positions with the transition of 161 Air Force systems to Tobyhanna. Growth continued due to increased requirements for C4ISR products and services with the onset of Operations Enduring Freedom and Iraqi Freedom. Total employment at the installation has climbed from fewer than 3,000 in 2003 to more than 5,800 today. Depot workload has doubled in that period. In FY07, Tobyhanna personnel produced more than 425,000 items for joint Warfighters.



The depot also has dramatically increased its global presence, operating 50 forward repair activities at stateside and overseas installations, and in support of deployed forces. This presence includes more than a dozen locations and hundreds of technicians in Iraq, Afghanistan and Kuwait. Tobyhanna technicians provide forward support on a wide array of systems and components, including the Common Ground Station, COMSEC gear, IED countermeasure systems, Tier III Automated Data Processing Equipment, Firefinder weapons-detecting radar and the AN/TRC-170 tropospheric microwave communications system. Overall mission growth also is reflected in record deployments of more than 1,250 personnel, all volunteers, serving in Southwest Asia in FY07.

Over the last four years, a significant portion of depot workload is for reset, which has grown substantially over the last several years. Last year, reset accounted for work valued at more than \$300 million. That effort rapidly returned more than 60,000 items in almost 900 programs to Army units preparing to deploy.

As the reset effort has matured, Tobyhanna

has provided skilled technicians to Communications Electronics Evaluation Repair Teams (CEERT) forward deployed to brigade combat teams to rapidly repair SINCGARS radios and night vision devices, including sights and

"Tobyhanna," Continues Next Page »

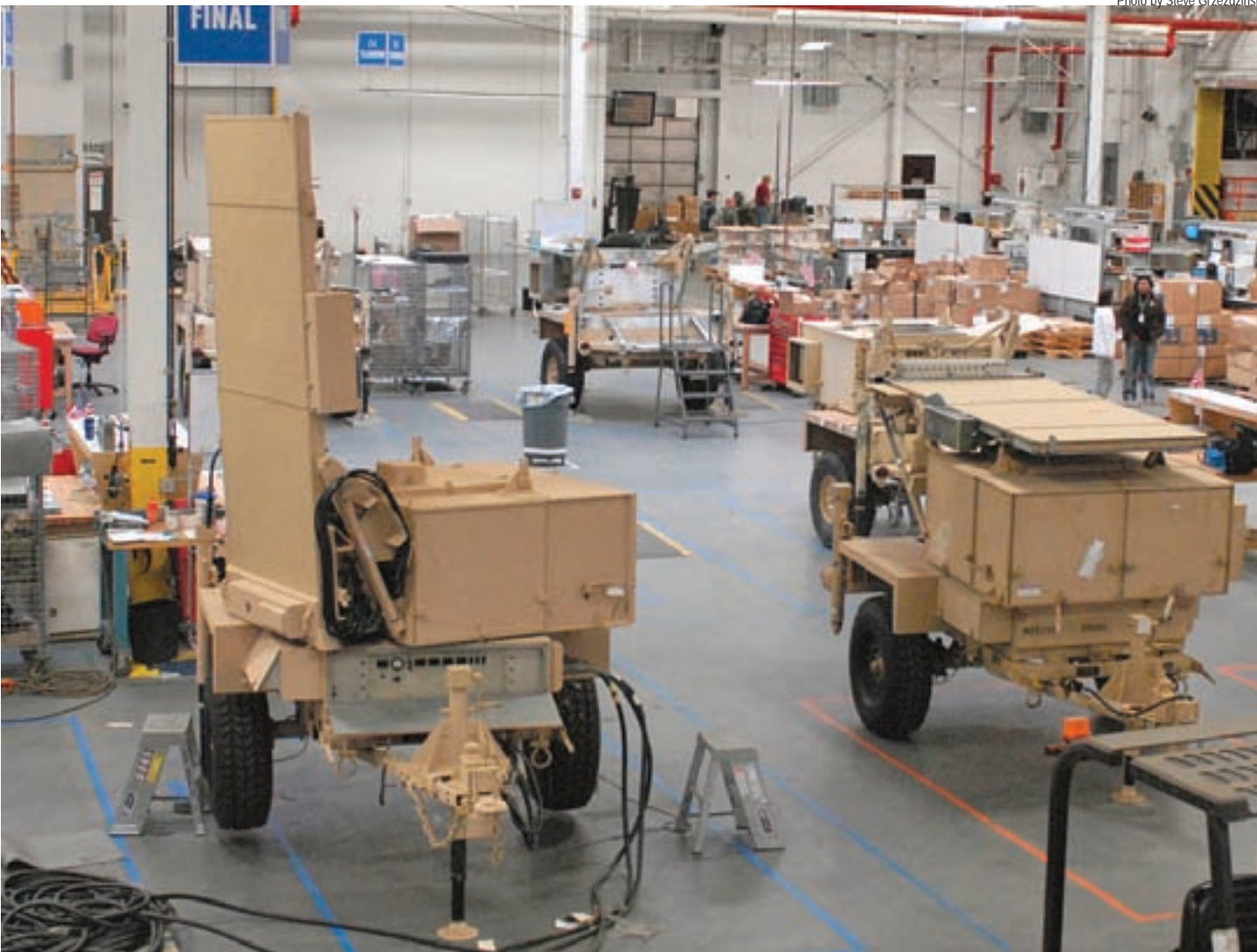
Patricia Decker, an electronics technician at Tobyhanna Army Depot, replaces the scanner component of an AN/TAS-4 Thermal Night Vision Sight.



U.S. Army Photo

BELOW: Dramatic improvements to the AN/TPQ-36 Firefinder Radar Antenna Transceiver Group mission earned a Shingo gold award. The Shingo prize program is regarded as the premier manufacturing award recognition program for North America. The Shingo Prize highlights the value of using world-class manufacturing practices.

Photo by Steve Grzedzinski



goggles. Teams use prepositioned maintenance vans to reset a complete combat team as they prepare for redeployment.

"We are repairing AN/PVS-4 and AN/TVS-5 sights," says Andrea Cool, an electronics mechanic supervisor. The AN/PVS-4 is mounted on small arms such as the M-16 assault rifle. The AN/TVS-5 is mounted on the M-2 .50-caliber machine gun. Other items include helmet-mounted binocular and monocular goggles. "Some of the goggles and sights are in bad shape," says Jerry Kapinus, electronics worker. "They have sand in them, scratches and broken parts."

Teams of seven or eight depot technicians have traveled to posts, camps and stations, within the U.S. and beyond repairing some 6,000 systems since the mission began in November. The technicians for the SINCGARS and night vision systems are supported by CEER-T site leaders from the CECOM Life Cycle Management Command.

Tobyhanna also is a DoD leader in the use of Lean Six Sigma — awarded Shingo Bronze and Gold Medallions in 2006 and 2007. The depot earned the Gold Medallion for significant improvements on the AN/TPQ-36 Antenna Transceiver Group. It is a key component of the Firefinder weapons-detecting radar, a critical force protection system used widely in Iraq and Afghanistan. Using Lean Six Sigma tools, the depot reduced repair cycle time by 26 percent and increased production by 1,400 percent to meet Warfighter requirements.

"We're methodically applying Lean Six Sigma improvements and processes to the thousands of C4ISR systems we maintain for all branches of the Armed Forces. The bottom line is that we will produce critically-needed systems faster, at lower cost and with greater quality," Alberto says. The depot has realized savings of more than \$84 million since starting its Lean journey in 2002.

Reflecting Tobyhanna's support to the joint Warfighter, the depot's first Shingo came in 2006 in the form of a Bronze Medallion for improvements to the AN/TPS-75, the U.S. Air Force's primary air defense radar system.

One of the depot's major programs is support of tactical and strategic satellite communications systems. Tobyhanna is deeply involved in the Service Life Extension Program of tactical systems. This is a multi-year effort that is improving the capabilities while lengthening the life

of these vital systems. Tobyhanna also supports the Missile Defense Agency Ground-based Missile Defense effort in several areas, including the Ballistic Missile Defense System Communications System Complex-Transportable. It provides the Missile Defense Agency with consolidated communications and fixed locations worldwide.

Innovation is not limited to Lean. Three Tobyhanna technicians were selected as Department of the Army 2007 Suggesters of the Year for an idea that saves about \$150,000 annually. By carefully analyzing components, they were able to replace a \$20 diode rather than discard-

first deployment of the Logistics Modernization Program, the Army's new Enterprise Resource Planning System. LMP is delivering an integrated approach to business information management, processes and operations. ERP systems are widely recognized as powerful vehicles for delivering and linking resource planning requirements in medium to large-sized manufacturing environments. It provides an enterprise-wide set of tools that, when fully-developed, will enable better forecasting, capacity planning and scheduling than the legacy systems it replaces. Initial benefits that the system provides include better data on

demand requirements, reduced instances of material shortages, shortened cycle times and more on-time completion of work.

The depot also has established more than 130 partnerships with private firms, including major defense contractors such as Raytheon, General Dynamics and Northrop Grumman. Tobyhanna personnel are also the warranty providers for Dell and other computer companies for personal computers and peripherals used by warfighters in Southwest Asia.

Tobyhanna's efficiency and cost effectiveness were recognized in every round of base closure from 1988 to 2005. The 1995 BRAC decision established Tobyhanna's status as DoD's

premier joint depot with Air Force ground-communications electronics maintenance comprising nearly half of the depot's workload in the late 1990s and early 2000s.

Most recently, the 2005 commission directed the movement of radar, electro-optics/night vision and other workload from the Marine Corps Logistics Base, Barstow, Calif., as well as electronic components, fire control systems, radars and radios from the Naval Weapons Station, Seal Beach, Calif.

Tobyhanna is meeting its growing requirements for skilled technicians through extensive use of its Student Career Experience Program. With more than a dozen partnerships with regional colleges and technical schools, Tobyhanna's SCEP program is creating a steady flow of qualified engineers, electronics technicians and industrial trades workers through cooperative education programs for students leading to permanent employment upon graduation.

"Tobyhanna's focus on continuous improvement, combined with an individual and organizational commitment to excellence, are moving us steadily toward our vision: The C4ISR Logistics Center of Choice for Warfighter Readiness and Transformation," Alberto concluded.



Photo by Traci Condi

A Tobyhanna technician maintains night vision equipment.

ing a component used in Bradley Fighting Vehicles valued at more than \$3,300.

The facility's personnel have an outstanding safety record and Tobyhanna is the first DoD installation to earn the star site designation from the Occupational Safety and Health Administration's Voluntary Protection Program. In the last fiscal year, the depot's injury rate bettered the established standard by 64 percent, and total injuries were reduced 23 percent compared to the previous year.

Tobyhanna has an enviable record in environmental stewardship, earning several state, Army and Defense awards for recycling, energy conservation and pollution prevention. One wing of the headquarters building now has a green roof, which is demonstrating considerable benefits in reducing energy consumption and storm water runoff.

The depot also has earned certification as an ISO9001:2000 Quality Management System and ISO14001:2004 Environmental Management System facility. Tobyhanna is currently pursuing the Occupational Safety & Health Administration 18001:2007 certification for its Safety Management System.

Tobyhanna is serving as the pilot site for the

Summit explores maintenance tech

Also called condition based or predictive maintenance, automation reduces failures

By Thomas Cameron
Logistics Correspondent

The CECOM LCMC Logistics and Readiness Center and U.S. Army Communications-Electronics Research, Development and Engineering Center co-hosted the second Condition Based Maintenance (CBM) Summit at Fort Monmouth's Gibbs Hall, March 4.

The Summit provided a forum for the C4ISR community to discuss and share information on efforts to integrate CBM into maintenance and logistic support processes, as well as discuss the issues, requirements and interoperability challenges for CBM across the C4ISR equipment spectrum.

An audience of 138 representatives from numerous Army organizations and activities, both within and outside the C4ISR community attended with industry representatives.

Also known as predictive maintenance, CBM is the set of maintenance actions taken to prevent functional failure or to avoid the consequences of functional failure as well as reduce maintenance downtime and costs.

Condition based maintenance is the automated monitoring of the operational status of a system to report impending failures in the system, its subsystems or components.

The goal of CBM is to perform maintenance only upon evidence of need and before failure occurs. CBM includes a conscious effort to shift equipment maintenance from a principally unscheduled, reactive approach at time of failure to a more proactive and predictive approach driven by condition-sensing and integrated, analysis-based decisions.

The Department of Defense initiated CBM in November 2002 to provide a focus for a broad variety of maintenance improvements that



Photo by Michael Allison

MG James H. Pillsbury, AMC G-3, speaks at the CECOM CBM+ Summit, March 4.

would benefit both the maintainer and the Warfighter in a memorandum from the deputy under secretary of defense (logistics and materiel readiness).

Documents from the DoD and Department of the Army direct that condition based maintenance plus be "implemented to improve maintenance agility and responsiveness,

increase operational availability, and reduce life cycle total ownership costs." The policy requires that the Military Services and Defense Logistics Agency, "shall pursue the examination, evaluation, development, and implementation of CBM+ enabling technologies and process improvements. Further, CBM+ technologies and concepts, "will be incorporated in organic maintenance capabilities and operations as well as in commercially supported DoD systems/programs." Finally, the CBM+ Roadmap provides the integrated and strategic vision for CBM+ capabilities throughout the Army.

CBM+ expands upon the CBM basic concepts and encompasses other technologies, processes, and procedures that enable improved maintenance and logistics practices to include data collection, system architecture, proactive supply transactions and interactive electronic manuals.

CBM+, when applied judiciously, can preclude equipment failures, thereby maximizing operational availability, reducing life cycle costs, increasing system safety, and reducing the logistics footprint.

CURRENT OPERATIONS

Contract vehicle speeding C4ISR to Soldiers

By Eric L. Waterman
Acquisition Correspondent

A unique contract vehicle is proving after two years in service to be a valuable tool for speeding C4ISR-related services to customers, and ultimately to Warfighters.

While traditional contract award cycle times for a competitive acquisition run, on average, 120 days from acceptance of the Acquisition Requirements Package (ARP), S3's cycle time averages 19 days under the Strategic Services Sourcing contract, known as S3.

"S3 was created to speed up the acquisition process to better support our C4ISR customers," said Jan Oberdick, S3 contracting officer.

Established on March 2, 2006 by the CECOM LCMC Acquisition Center, the S3 competes C4ISR-re-

lated service requirements while providing customers greater flexibility, enhanced cost effectiveness and a streamlined acquisition process.

The S3 is a \$19.25 billion Indefinite Delivery/Indefinite Quantity type performance-based contract awarded to seven vendors with a five-year base period and a five-year option period.

Customers come to S3 with C4ISR requirements, like engineering, logistics, and business operations support, for which the vendors compete.

The S3 provides its customers templates of all the required ARP documentation and an experienced team of specialists to assist the customers in the ARP formulation process, according to Oberdick.

"Once the ARP is accepted we post the Request for Task Execution Plan (RTEP) to the IBOP (Interac-

tive Business Opportunities Page)," said Oberdick. "Each of the seven contractors is then given a fair opportunity to bid on the RTEP.

Within the first three days of posting the RTEP each of the seven prime contractors must submit their intention — a 'yes' or 'no' response — to submit a proposal through the IBOP. Within seven days of posting the RTEP the contractors are required to submit their proposal."

"This is a drastic reduction in the amount of time it traditionally takes a contractor to submit a proposal. I have experienced contractors taking as long as six months in a sole source environment to submit a proposal," said Oberdick.

Currently, the S3 program supports 34 different customers under the Team C4ISR banner for 43 mission critical service requirements in Southwest Asia.

The S3 program "has been successful. ... (it has been) valuable to us and (we) want to use it more. We feel it could meet a lot of our requirements," said Richard Nabors, branch chief, Technology Plans and Program Branch, Night Vision Electronic Sensors Directorate.

The Program Executive Office for Command, Control, and Communications Tactical launched the Synchronized Pre-deployment and Operational Tracker (SPOT) using the S3 to meet Department of Defense needs for security, safety and accountability in tracking thousands of deployed contractors.

"S3 is a great vehicle for the SPOT program," said Theresa Miller, senior logistician for the SPOT program.

"The flexibility of the S3 contract alone has been much appreciated by the SPOT team."

PROGRAM EXECUTIVE OFFICE

Command, Control and Communications Tactical

MISSION: PEO C3T designs, acquires, fields and supports fully integrated and cost-effective C4ISR solutions that meet Warfighter capability needs while sustaining a world class work force.

By fielding and sustaining cost-effective digital battlefield systems for the Soldier, the PEO C3T plays a pivotal role in the ongoing war on global terrorism. The Army Battle Command Systems of PEO C3T improve Command and Control capabilities on the battlefield to enhance the commander's ability to plan and execute operations, while its on-the-move networking and communication capabilities allow the Warfighter to see

first, understand first, act first and finish decisively.

The PEO C3T is responsible for seven Project Management offices that supply the Warfighter with an array of battlefield capabilities, including a broad spectrum of radio and satellite communications, fire support, power generation, biometrics, situational awareness and network operations, all brought together in a tactical operations center.



LOCATION: Headquartered at Fort Monmouth, N.J., PEO C3T management facilities are located at several national installations including in New Jersey, Virginia, Texas and Alabama.

Army TEAM C4ISR



BRIGADIER GENERAL NICKOLAS G. JUSTICE

Brigadier General Justice started his military career in 1970 as an enlisted Soldier serving as an electronic warfare operator, telecommunications center operator, telemetry analyst, senior legal clerk and a platoon sergeant.

He graduated from the University of Maryland with a bachelor of arts degree in history in 1977. That same year he completed Officer Candidate School at Fort Benning, Georgia. Upon graduating from OCS, BG Justice was assigned to Fort Jackson South Carolina as a Company Executive Officer, and a Brigade Adjutant. He remained at Fort Jackson until 1980. During this period, he received a Master of Arts degree in Human Resources Management from Pepperdine University.

Between 1980 and 1988 his assignments included Eighth Military Personnel Command as Chief Officer Assignments Division and Li



Each system matters

But having a totally integrated Warfighter capability counts

By Josh Davidson
C3T Correspondent

The Army's Program Executive Office for Command, Control and Communications Tactical's capabilities and support staff reach Warfighters at locations across the globe.

The organization is responsible for seven project management (PM) offices, which play a key role in the design, acquisition, fielding and support of fully integrated and cost-effective C4ISR. Assigned to the organization is PM Battle Command (BC), Product Director Counter Rocket, Artillery and Mortar (C-RAM), PM Mobile Electric Power (MEP), PdM Network Operations-Current Force (NetOps-CF), PM Command Post (formerly Tactical Radio Communications Systems), PM Warfighter Information Network-Tactical (WIN-T), and PM Force XXI Battle Command Brigade and Below (FBCB2).

Also included is the Special Projects Office/Northeast Regional Response Center (SPO/NRRC), Systems Engineering and Integration Directorate, Operations and Business Management Office and Chief Knowledge Office.

Project Manager BC products allow Warfighters to plan and execute fires, disseminate intelligence, plan logistics, and collaborate and share battlefield information in a whiteboard-like environment. The Counter-Rocket, Artillery, and Mortar (C-RAM) system senses rocket, artillery and mortar, launches and warns surrounding troops. It then intercepts and destroys the RAM threat in flight.

Project Manager MEP's role is to modernize a standard family of mobile electric power generator sets for each service within the Department of Defense. Its mission is to be coordinated through an inter-service effort to develop, acquire and support mobile electric power generator sets from small, 0.5kW manportable generator sets to large, 920kW prime power generating systems.

PM WIN-T provides our current forces beyond line-of-sight communications and will provide future forces on-the-move satellite communications. PdM NetOps-CF products are used to maintain and troubleshoot the Army's network.

FBCB2-Blue Force Tracking provides a graphical representation of friendly vehicles and aircraft on a topographical map or satellite image of the ground. PM TRCS integrates Team C4ISR systems into command posts and tactical operations centers and has fielded millions of radios to

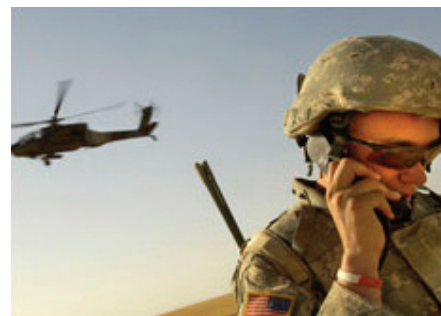


Photo by Staff Sgt. Jacob Bailey

2nd Lt. Zack Zilai, from the 172nd Stryker Brigade Combat Team, maintains radio contact with an Apache helicopter pilot during an aerial traffic control point mission near Tal Afar, Iraq.

theater. Since the Army's preparation for Operation Iraqi Freedom, the SPO/NRRC has been a premier Army organization in supporting the digitization efforts of the Global War on Terrorism and homeland security efforts.

As they prepared to deploy to Iraq last summer, Soldiers from the 1st Brigade Combat Team/4th Infantry Division spoke highly of the capabilities the PEO C3T provides.

As a whole, Army Battle Command Systems (ABCS) 6.4 provides units with an increased situational awareness of its Soldiers' locations, allowing them to see if they are moving towards a potentially dangerous situation, said Capt. Jennifer Twombly, the unit's S6.

"If there has been an emergency and they need to be medevaced, we can see where they currently are," she said. "It helps us process information a lot faster."

Provided by PM BC, ABCS 6.4 is the Army's automated command and control system. It is comprised of a number of interoperable systems supporting battlefield functional areas.

Twombly said that Maneuver Control System (MCS), an ABCS 6.4 component, provides her unit with overall situational awareness and Soldiers with the ability to send and receive messages.

Users can add overlays and mark the location of improvised explosive device (IED) hot spots they find, she said.

"When the Soldiers are traveling on certain routes, they can see where specifically in the past those IED hot spots have been, so they can be extra careful around those spots and, if need be, they can take an alternate route," she said.

These planning tools are quite a jump for the commander who, in the past, used a greasy

Key Leader Profile

aision Officer to PERSCOM, and Office of the Assistant Chief of Staff for Information Management (renamed Office of the Director of Information Systems for Command, Control, Communications, and Computers) as a staff officer and Assistant Executive Officer. In 1988 and 1989, he was a student at the Naval War College in Newport News, Rhode Island. During this period he completed the Adjutant General Basic and Advanced Course, Systems Automation Course and earned a Masters of Art in International Relations from Salve Regina College.

In 1990, BG Justice completed the Echelons above Corps Automation Course (DOIM Course) and received a Masters of Art in National Security Strategy from the Naval War College. He was assigned to the Sixth Allied Tactical Air Force Izmir, Turkey as Chief, Command and Control Project Management. He remained there until 1992.

From 1992 to August 2004, BG Justice served as Operations Officer and Automation Project Manager at the General Officer Management Office, Office of the Chief of Staff Army, Washington, DC; as a student at the Industrial College of the Armed Forces, Fort McNair, Washington, DC; and as the Program Executive Officer for Standard Army Management Information Systems, Fort Belvoir, Virginia.

While at the Industrial College of the Armed Forces, he completed the Senior Acquisition Course, graduated from the Industrial College of the Armed Forces, and received a Masters of Science in National Resource Management at the National Defense University.

From July 2007 to present, BG Justice is assigned as the Program Executive Officer for C3T, Fort Monmouth, NJ.

BG Justice is a native of coastal North Carolina. He and his wife are parents of two married adult sons. They are also the proud grandparents of six grandchildren.

SPOTLIGHT

"C3T," Continues Next Page



SPOTLIGHT

pencil to mark up a paper map with an acetate overlay to plan his or her course.

Spc. Gary Bixler, an Advanced Field Artillery Tactical Data System (AFATDS) operator with the unit, described that system as "extremely" effective.

This fire support component of ABCS 6.4, AFATDS is an Army automated system that is used to plan and execute fires during operations.

"It's very easy to communicate with other task forces, so we can talk to them when they get (indirect fire)... It's awesome," Bixler said.

Bixler primarily uses AFATDS to send and receive fire missions from all other units.

He can also log target acquisitions and indirect fire attacks that have occurred throughout the sector where his unit exists.

"We can go back to those anytime we want and we can collect all the data and see all the missions themselves," he said. "It is really nice to track what has happened, what is happening and (analyze it)."

By accessing a link to the Publish And Subscribe Services (PASS) repository, which is shared by separate units, AFATDS users like Bixler can publish their own data builds and view those of others.

Bixler, who prepared for his second deployment to Iraq last summer, has found AFATDS easy to use.

"When I first came into the military, it was pretty much thrown upon me that I was going to be an AFATDS operator," he said. "Within a month, I was proficient enough to use it with supervision. About a month after we got to Iraq, I was able to do it alone very, very easily."

PEO C3T's total annual budget exceeds \$2.8 billion. Its workforce of more than 2,300 employees includes core military, core civilian, CECOM Life Cycle Management Command (LCMC) matrix personnel and support contractors.

System support efforts in the PEO C3T are led by its Battle Command Network and Support Directorate (BCNS&D). The directorate provides digital systems engineers (DSEs) and field support representatives (FSRs) who provide close assistance to system users. During a unit's training exercise, DSEs help resolve issues, set priorities, repair boxes, provide some over-the-shoulder training and explain systems. Many deploy to support the same unit in Operation Iraqi Freedom in Iraq or Operation Enduring Freedom in Afghanistan.

Each brigade includes an embedded DSE in theater. Any issues that the brigade-level DSE cannot resolve are forwarded to the division-Level DSE.

If the division-Level DSE still cannot resolve the issue, he or she will work the issue over the phone with a FSR or request that the FSR be sent on site to help repair the product.

Prior to civilian support, on many occasions Warfighters were required to maintain and support their own equipment, said Kevin Loesch, former program analyst in the PEO C3T Chief Knowledge Office and now the Small Business Center director for the Defense Contract Management Center.



Forward observers establish an observation post while preparing to conduct a live-fire artillery exercise outside of Ar Ramadi, Iraq. The Soldiers are assigned to the 1st Infantry Division's 1st Battalion, 16th Infantry Regiment.

Unit Set Fielding (USF) and the Single Interface to the Field (SIF) have simplified those processes for Soldiers, he said.

The SIF concept and portal are envisioned to provide the Warfighter with a single entry point for support of any system managed by the CECOM LCMC. Accessing the SIF guides them to the assistance they need

and links them to mission essential information pertaining to areas such as fielding and training.

Prior to the SIF, Warfighters struggled to find the correct contact person to obtain field support, Loesch said. The knowledge office developed the SIF, while the BCNSD coordinates the tiered support that the SIF provides to Team C4ISR system users.



Photo by Richard Mattox

Soldiers and civilian engineers worked side-by-side during Operation TOCFEST at Fort Indiantown Gap, Pa. in March. Both were applying systems engineering principles to further the development and standardization of Army tactical operations centers.



Photo by Staff Sgt. Joseph Roberts

"Through the SIF, we have made great strides in trying to provide them that one point of reach back in order to get C4ISR support for any C4ISR system regardless of who the PM or materiel developer is," Loesch added.

USF is a five-phase process that manages the planning and implementation of fielding and reset for all major Army tactical Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) capabilities.

The U.S. Army and specifically, the organizations of the CECOM LCMC, simultaneously

provide the Warfighter with everything he or she needs to perform their mission in combat. This means providing the Army Battle Command Systems (ABCS 6.4), the communications systems, power, the network, and enablers, all at the same time.

The five USF phases are: Planning for Fielding and Engineering, Fielding Execution, Supporting while Deploying, Supporting While Deployed, and Resetting to Headquarters.

The Battle Command as a Weapons System (BCAWS) process will serve to synchronize the fielding of capabilities across the Army com-

munity.

"The focus of the BCAWS initiative is on managing the readiness of Battle Staff, their BC systems, and associated training for command posts and command groups by reporting the status of each as weapons systems," said BG Nick Justice, the PEO for C3T in a recent article he wrote.

Through monthly reports submitted by unit commanders to Headquarters Department of the Army, the Army can conduct a full examination of equipment status and training levels related to its fielded equipment. The goal is for a standardized solution for Battle Command systems to be fielded across the force."

Another key PEO C3T initiative was the establishment of a Technology Gap Panel to realign the PEO C3T technology transition priorities and to help guide the Communications-Electronics Research, Development and Engineering Center and Science and Technology communities to align their investment strategies.

As it evolves forward, the PEO C3T will rapidly equip Warfighters with mission essential capabilities, while ensuring its fielding processes are synchronized among Warfighters, civilian support staff and Army leadership

Software center gets field support role

Tim Dyzacky
Software Correspondent

The manager of a system Warfighters use for intelligence operations in Iraq announced in March that it would transition field support for its current version to the CECOM LCMC Software Engineering Center (SEC).

"This allows the project manager to fully focus its resources on the development of the next version of the system, V4.0, while SEC takes on fielding responsibilities in the operational environment," said U.S. Army CECOM LCMC SEC Southwest Asia Software Support Officer in Charge, MAJ Eric VandeWeg.

The system, Distributed Common Ground System-Army (DCGS-A), seamlessly integrates intelligence, surveillance and reconnaissance data, processes and systems to rapidly deliver actionable intelligence to Warfighters. "Making it all happen today in Iraq is the job of the men and women who support the system," said VandeWeg.

The support effort for DCGS-A involves merging two fundamentally different field support philosophies while in transition from the former – centralized – to the latter so that units that be-



U.S. Army Photo

SPC Samuel Rivas III, HHC 4th Brigade, 3rd Infantry Division S-2, finalizes a project using DCGS-A and an Excel Pivot table product.

gin the processes involved in a unit rotation this fall will have embedded support, according to VandeWeg.

"Both approaches are effective techniques; the challenge presented to the team was developing a solution to merge the two different support concepts during the transition," said VandeWeg. Previously, contracted field support representatives (FSRs) centralized all support operations in Baghdad and sent "fly-away teams" to units for support as needed. "While this cen-

tralized method provided the flexibility needed to tailor support teams to specific problem sets, the SEC also wanted to provide a constant support presence in units, enabling a faster response time," said VandeWeg.

Because DCGS-A V3.0 displaces the All Source Analysis System-Light (ASAS-L) systems, the currently embedded ASAS-L field software engineers (FSE) are training to support DCGS-A V3.0. "As more embedded FSEs train, the need for fly-away teams will be reduced," said VandeWeg. Training and ongoing fielding of DCGS-A V3.0 will continue through August. Gradually, as the original FSRs complete their deployments and rotate home, SEC will not back-fill their positions.

The transition is also made challenging because it involves the integration of fielding and sustainment personnel from five separate contracts, VandeWeg said. So far, however, the transition has been made successful due to the close working relationships that SEC established among all of the participants, including the project manager, the new support contractor and the contractor in charge of field support, for both DCGS-A V2.0 and the initial fielding of V3.0.

UH-60s become commander birds

By Jacqueline Boucher
Tobyhanna Correspondent

TOBYHANNA ARMY DEPOT, Pa. — For three years, Tobyhanna field technicians have helped improve battlefield communications by transforming Army helicopters into high-tech command and control platforms.

The Army Airborne Command and Control System (A2C2S) installed on select UH-60 Black Hawk helicopters uses command, control, communications, and computers (C4) systems to gather data while flying over combat zones. Eight depot field service representatives (FSR) maintain and support the system.

The command and control platform is a self-contained airborne command post that consists of two major components; the A-and-B-kits.

A-kits are permanently affixed to the platforms and include antennas, power cables and attachment points for the B-kits. B-kits are removable. They house a selection of voice and digital data communications packages, software applications, reconfigurable and removable user stations and large common displays, and intercom and encryption equipment.

While deployed to Iraq, the product man-



U.S. Army Photo

Field service representatives traveled to Camp Victory to train Soldiers on A2C2S system capabilities.

ager for A2C2S spoke highly of FSR support.

"Tobyhanna provides my product with outstanding field service representatives," Lt. Col. Charles Carter wrote to depot commander Col. Ron Alberto.

The FSRs provide maintenance, training and logistics support to deployed Army units. Ralph John has worked with A2C2S since the program began. He provides training to unit and division personnel. John deployed to Iraq with the 1st Cavalry Division. FSRs serve as one of the principal advisors to the commander on all

A2C2S issues, according to John.

"I enjoy working in the field with the Soldiers," said Thomas Devine, who deployed to Iraq with the 3rd Infantry Division. He works on two racks that house the computers, power supplies, radios and various components that make up the A2C2S system along with three monitors.

"Tom has the aircraft at a 90 percent mission-capable status," said Thomas Yanocho, Tactical Operations Center (TOC) project officer here.

As the FSR in Afghanistan, Daniel Morgan provides depot-level maintenance and support while deployed with the 82nd Airborne Division.

"It's nice to hear my work helps save lives and that maybe one more Soldier will go home," Morgan said. Morgan's systems had the highest operational tempo of any unit, according to Yanocho.

Participating in his second deployment this year, Jabari Grant feels Tobyhanna is supporting the A2C2S program fully. He described his job as "vast levels of troubleshooting."

Long hours, hard work and dedication are keys to the team's success, according to Carter, adding that FSRs work alongside Soldiers under difficult conditions to ensure readiness.

C4ISR takes a spot in the chow line

Kim Himstreet

Software Correspondent

FORT LEE, Va. — A web-based food management system deployed by a team of software engineers to 97 U.S. Central Command area dining facilities last summer is helping Soldiers in the planning, production and efficiency of food service operations.

The team deployed from the CECOM LCMC Software Engineering Center (SEC) here and completed their tasks three weeks ahead of schedule, Aug. 1 to Aug. 25, 2007 after instructing dining facility managers on the new system.

The system, known alternatively as the Army Food Management Information System (AFMIS) Web or Software Change Package 14, was developed to provide food service managers with Web-based menu planning, production and recipe tools as well as automated labor scheduling, cash collection

and equipment replacement tools that allow real-time monitoring of transactions to increase efficiency while significantly improving oversight of the food program at all levels, according to Gary Licvar, director of SEC-Lee.

"This change reduced costs associated with hardware replacement and operator time — significant at this time with current funding levels," said David Staples, director of operations for the Army Center of Excellence for Subsistence. "It enables leadership from user-to-Department of the Army level the ability to see instant transactions via DSS (Decision Support System), versus manual paperwork being sent through commands."

AFMIS Web has been fielded to 391 of 456 dining facilities worldwide, with full deployment planned for Sept. 30. The Central Command Area of Responsibility (AOR) includes Iraq, Kuwait and Afghanistan.

"We were in the process of consolidating subsistence supply functions within the region to create economies and efficiencies, and (AFMIS Web) gave the automation structure to affect the change," said Frederick Jackson, food program manager for the Installation Management Command, Northeast. "As a result we were instrumental in consolidating 10 subsistence supply functions into three active supply centers, realizing a savings of \$2.6 million and cost avoidance of \$1.2 million."

"To date we have further streamlined the subsistence supply functions. Through the help of [AFMIS Web], we've placed some of the accounting functions back to the customer, which reduced the manpower in the Subsistence Supply office."

Developers are planning the rollout of AFMIS Web's second phase, which is expected to include



U.S. Army Photo

SGT Jason Mendoza, 1st Battalion, 28th Infantry Regiment, 1st Infantry Division, gets dinner at Forward Operating Base Falcon, Nov. 22.

a new simplified tactical headcount recording and reporting system, according to Licvar.

CURRENT OPERATIONS

Ops centers benchmarked at FEST

By Josh Davidson

C3T Correspondent

Representatives from government and industry completed five weeks of analysis and activity at Fort Indiantown Gap, Pa. to improve the Army's digital tactical operations centers and command posts.

Running from March 9 to April 18, Operation TOCFEST brought together Army systems engineers from the U.S. Army Program Executive Office Command, Control and Communications Tactical; other PEOs; capability managers from the U.S. Army Training and Doctrine Command; manufacturers from industry, and others using TOC equipment from the 56th Stryker Brigade Combat Team, Pennsylvania National Guard.

"We're bringing the key people together to baseline the standard for the command post, said Project Manager for Command Posts (PM CP), COL Cris Boyd. "In doing so, we want to support Army commanders in their art — the effective com-

mand of complex, dynamic operations."

Operation TOCFEST will help influence how command posts will be institutionally described and trained, and how equipment will be allocated within the command post, Boyd said.

Command posts are the nexus where information, communications and decision-making meet. They vary in size according to the unit they control but they are always arranged internally according to function, such as: current operations, maneuver, intelligence, fires, protection, sustainment and plans sections, according to Boyd.

This five week effort continues the vast change in command posts that MAJ Marco Barrera of the PM CP Technical Management Division has witnessed in recent years. "It is



Photo by Richard Mattox

War game exercises conducted during Operation TOCFEST allowed participants to study the art of battle command.

a dramatic difference today with the infusion of information technology and all of the digital systems with a lot more situational awareness for a commander and a staff," he said.

"We have never had the opportunity to stop, stand back and take a look at a TOC and optimize it, do the environmental on it," Boyd said. "Are the generators too loud; are they too close; do they provide adequate power generation for the ABCS suite and other electrical

items in the CP?"

As the provider of the Army tactical battle command systems, network and enablers, PEO C3T hosted TOCFEST, "to develop a recognized standard that is supported by a completely engineered, interoperable, integrated system-of-systems tactical command post, or command posts, for the Warfighter," Boyd said.

"We want to standardize the TOCs to reduce learning friction for Army personnel because there is significant transition of personnel from unit-to-unit, job-to-job," said Boyd.

"We want to allow trained commanders more agility in moving between organizations, to be immediately effective in the tasks they do, like building task force organizations," said Boyd.

Standardization will also save money by preventing units from having to "re-do" command post designs to correct design deficiencies, and it will prevent duplicative efforts during the system development phase, said Boyd.

PROGRAM EXECUTIVE OFFICE

Enterprise Information Systems

MISSION: Provide Joint Service and Army Warfighters with information dominance by developing, acquiring, integrating, deploying and sustaining network-centric knowledge-based information technology and business management systems, communications and infrastructure solutions through leveraged commercial and enterprise capabilities that support the total Army, every day and anywhere!

Program Executive Office Enterprise Information Systems provides information systems and communications infrastructure to enable the Army to succeed on the battlefield. PEO EIS acquires, develops and deploys a wide range of products and services to support the Army. Dedi-

cated to delivering the most technologically advanced, integrated systems available to Warfighters, PEO EIS plays a significant role in supporting the Global War on Terror and the war in Iraq. PEO EIS programs connect Soldiers to the services they need anywhere in the world.



LOCATION: Headquartered at Fort Belvoir, Virginia, with program offices located throughout the U.S.

Army TEAM C4ISR



GARY L. WINKLER
SENIOR
EXECUTIVE SERVICE

Gary Winkler took Command of the Program Executive Office for Enterprise Information Systems (PEO EIS) in October 2007. In this assignment, he is responsible for large-scale Department of Defense and Army Information Technology (IT) system development efforts supporting finance, logistics, personnel, communications infrastructure,



Key Leader Profile

biometrics, medical and war-fighting functions.

He leads a workforce of 1,400 military, civilian and contractor personnel to effectively execute approximately \$3 billion per year. Prior to his assignment as PEO EIS, Mr. Winkler was appointed to the Senior Executive Service in May 2003, working in Army Headquarters under the Chief Information Officer/G6, as the Army's first Chief Knowledge Officer.

As Chief Knowledge Officer, he was responsible for Information Technology policies, programs and systems supporting the Army's war-fighting and business missions. He also led the Army's IT Human Capital Development efforts. Before beginning his Government career, Mr. Winkler worked in private industry with large defense manufacturers on the Army MLRS and ATACMS programs, and he worked with smaller companies providing technical services to Army programs.

Mr. Winkler's awards include the Presidential Distinguished Rank Award (2007); the Secretary of the Army's Decoration for Exceptional Civilian Service (2006), the Army's Meritorious Civilian Service Award (2003), and the Army's Superior Civilian Service Award (2000, 1996).

Mr. Winkler holds Electrical Engineering and Mathematics degrees from Virginia Tech, an MBA from William and Mary, and a Master's Degree in National Resource Strategy from the Industrial College of the Armed Forces.



U.S. Army Photo

Soldiers use a radio frequency identification unit.

At the core of the Army's enterprise

By Jill Finnie
EIS Correspondent

With a new leader and renewed direction for several of its programs, the Program Executive Office, Enterprise Information Systems (PEO EIS) plays a major role in the Army's technological transformation. PEO EIS executes about 40 percent of the Army's information technology (IT) budget and manages a wide swath of projects, from cutting edge infrastructure solutions to integrated business systems.

"Our core mission is to provide capabilities to Soldiers quickly and cost effectively," explained PEO Gary Winkler. "We need to ensure that our programs contribute to the success and safety of our forces in the field now and in the future."

PEO EIS programs contribute significantly to this effort. The organization develops and fields a wide range of products and services that support the Army and the Defense Department. PEO EIS manages business and

combat service support systems, as well as related Army communication and computer infrastructure. Systems include logistics, medical, finance, personnel, training and procurement operations. This portfolio of large-scale IT projects and programs is designed to enable common business processes and deliver next-generation capabilities. Located at Fort Belvoir, Virginia, the PEO EIS organization consists of approximately 1,500 military, civilian and contractor staff around the world, and executes approximately \$3 billion per year. Dedicated to supporting the Warfighter, PEO EIS contributes to the global war on terror and the war in Iraq. Through diverse programs, PEO EIS impacts Soldiers every day.

PEO EIS is transitioning to the future in a number of ways. One is a name change and new direction for the Defense Communications and Army Switched Systems (DCASS) project office. Winkler recently announced the program will be renamed Network Service

"EIS," Continues Next Page

SPOTLIGHT



SPOTLIGHT

Center (NSC).

Located at Fort Monmouth, New Jersey, DCASS/NSC provides core LandWarNet data backbone and telecommunications infrastructure upgrades and modernization to Army installations worldwide. DCASS/NSC programs in theater are critical enablers for the Army's top strategic priorities in support of the Warfighter. They uphold operational imperatives to operate on short notice, in austere environments and to be ready to "fight upon arrival."

The new organization will manage an upcoming Area Processing Center (APC) initiative supporting the Army's requirement to provide data services to a user base of about 1.3 million individuals, distributed across six regions on multiple networks, operating on four security levels. Additionally, the APC effort is designed to accomplish three of the Army's primary enterprise IT goals: improve services, increase information and network security and reduce costs.

Another change is to the former Army Small Computer Program, now known as Project Director, Computer Hardware, Enterprise Software and Solutions (PD CHES). This was done to retool the organization's brand as the Army's primary source for IT products and services.

The new name does not indicate a change in mission but rather draws upon the program's continued ability to provide hardware and software solutions that comply with Defense, Army and Network Enterprise Technology Command (NETCOM) standards.

Located at Fort Monmouth, New Jersey, CHES is charged by the Army Chief Information Officer CIO/G-6 and mandated through Army Regulation 25-1 as the Army designated primary source for comprehensive

enterprise hardware and software solutions. CHES provides continuous vendor competition for best-value and consolidates requirements to maximize the Army's buying power. CHES works with other Army knowledge management partners including the Installation Management Command and NETCOM to provide architecturally sound, standards-and-policy-compliant commercial IT enterprise solutions to Army customers around the world.

The Army is modernizing its logistics and finance systems and PEO EIS is at the forefront of the effort, to ensure multiple

Be the world-class leader in the acquisition and implementation of integrated enterprise communication, information technology and business solutions for America's war fighting and peace keeping forces.

PEO EIS Vision

systems work together seamlessly to optimize processes and provide an accurate, enterprise view of business information. A program called Product Lifecycle Management Plus (PLM+), based at Fort Belvoir, Virginia, is at the center of this integration initiative. The PLM+ program is transforming into the Army Enterprise Systems Integration Program (AESIP) and will be the primary enterprise enabler. This program has the mission to integrate Army business functions by providing a single source for enterprise hub services, business intelligence and analytics, and centralized master data management. Initially, PLM+ will support the integration between the Army's financial system, General

Fund Enterprise Business System, and the tactical logistics system, Global Combat Support System - Army. Upon transition to AESIP, the program will integrate across domains to encompass the Army's entire business mission area.

Project Manager (PM) DoD Biometrics, which develops and deploys biometric tools for the U.S. Department of Defense, recently announced a program reorganization and rechartering of its product directors.

The program, located at Fort Belvoir, Virginia, is currently transitioning several systems into two formal acquisition programs.

The PM office is developing enterprise biometric capabilities, designed to ensure that future biometric systems are compatible, interoperable and can incorporate rapidly evolving biometric technology to meet joint Warfighter needs.

To better accomplish these goals, the enterprise functions previously encompassed in the Biometrics Enterprise Systems product office were split into two entities. The Biometrics Enterprise Core Capabilities (BECC)

office oversees development of the Next Generation Automated Biometric Information System, or NG-ABIS. NG-ABIS will be DoD's central, authoritative, multi-modal biometric data repository, replacing the current prototype DoD ABIS database.

The office also will oversee the Biometrics common hardware and software initiative. The second office is the Biometrics Family of Capabilities for Full Spectrum Operations, which will continue to lead support of the Biometric Identification System for Access, and assume responsibility for current and future development of the Biometric Automated Toolset, as well as for any future collection development efforts



Photo by Stephen Larsen



Photo by Cory Hanes

PEO EIS History

The Program Executive Office was established in 1987 as Program Executive Office, Standard Army Management Information Systems (PEO STAMIS) to help implement the Goldwater-Nichols Act. An Army Reorganization in 2001 resulted in the change to Program Executive Office, Enterprise Information Systems (PEO EIS). PEO EIS' program management responsibility has grown significantly over the years and will continue to do so in the future.

RIGHT: Workers install a microwave tower at Kunsan Air Base, Korea as part of the Product Manager, Defense Wide Transmission Systems' Digital Microwave Upgrade program.

BELOW: Staff Sgt. Nathaniel Bradbury runs diagnostics on an asynchronous transfer mode (ATM) switch that the Product Manager, Defense Wide Transmission Systems (PM DWTS) installed at Camp Carroll, Korea, under the Digital Microwave Upgrade (DMU) program.

BELOW LEFT: Master Sgt. Philip Walker (left) of the U.S. Forces Korea (USFK) J64 Operations Division, discusses power requirements at the Camp Walker C2 (command and control) facility with Fred Porzio (right) of the Product Manager, Defense Wide Transmission Systems (PM DWTS).

BELOW MIDDLE: Lt. Col. Clyde Richards (left), Product Manager, Defense Wide Transmission Systems, gets a lay-down of the progress at the technical control facility at Contingency Operating Base Speicher, Iraq from Robert Griffiths, project leader with General Dynamics C4 Systems.

BELOW: A Soldier connects to Army Knowledge Online (AKO), the Army's Web portal, which connects two million users worldwide.

August 2008

SPOTLIGHT



Photo by Stephen Larsen

Photo by Kermit Severson



U.S. Army Photo



PROGRAM EXECUTIVE OFFICE

Intelligence, Electronic Warfare and Sensors

MISSION: *To develop, acquire, field, and provide for life cycle support of intelligence, electronic warfare and target acquisition capabilities: integrated in the layers of the network, operationally relevant to understanding the battlefield, and enabling persistent surveillance.*

These capabilities are essential to set the conditions for the Joint Warfighter to control time, space, and the environment, while greatly enhancing survivability and lethality.

We will accomplish this with continuous Warfighter focus to provide capability in the right place, right time, and at the best value for our Nation.



Army TEAM C4ISR



**BRIGADIER GENERAL
THOMAS COLE**

Brigadier General Tom Cole's Army career began in 1979 after graduating from the United States Military Academy and he was commissioned a lieutenant in the Field Artillery. He transitioned to the Acquisition Corps in 1987 after completing graduate school at San Diego State University and earning a Master of Science degree in Aerospace Engineering. He is also a graduate of the Defense Systems Management College (1996) and has a degree in National Resource Strategy.

LOCATION: *Headquartered at Fort Monmouth, N.J., management facilities for the PEO IEW&S are located at several national installations including Fort Monmouth, N.J., Fort Belvoir, Va, and Redstone Arsenal, Ala.*



Photo by Staff Sgt. Russell L. Klika

Soldiers from 1st Squadron, 33rd Cavalry Regiment, 3rd Brigade Combat Team, 101st Airborne Division gather intelligence along the Syria/Iraq border.

Key Leader Profile

from the Industrial College of the Armed Forces (1999).

His prior acquisition assignments include positions as Deputy Program Manager, Program Integration, Platforms, Future Combat Systems (Brigade Combat Team) (2005-2007), Warren, Michigan; Deputy to the Acquisition Executive of Special Operations Command, MacDill Air Force Base, Fla. (2004-2005); Project Manager for Warfighter Information Network-Tactical in the Program Executive Office, Command, Control, and Communications-Tactical, Fort Monmouth, New Jersey (2001-2004); Deputy for Theater Missile Defense Systems in the Office of the Under Secretary of Defense (Acquisition, Technology, and Logistics), Washington, D.C. (1999-2001); Product Manager, Firefinder at the U.S. Army Communications-Electronics Command, Fort Monmouth, N.J. (1995-1998); Chief of the Joint Tactical Ground Station Division at U.S. Army Space Command, Colorado Springs, Colo. (1992-1995); and as a satellite system manager for the Space Test Program, Los Angeles Air Force Base, Calif. (1988-1991).

He served in Field Artillery assignments as Battery Commander, Executive Officer, and Fire Support Officer in the 2nd Battalion, 8th Field Artillery, Fort Ord, Calif. and as Executive Officer in the 14th Artillery Group in Turkey. His early military education includes Airborne School, Ranger School, Field Artillery Basic and Advanced courses, and Command and General Staff College.

Each Soldier benefits

By Brandon Pollachek
PEO IEW&S Public Affairs Officer

Fostering an environment where needs of the Soldier are met in both the present and the future is the challenge the Program Executive Office for Intelligence, Electronic Warfare & Sensors excels at meeting.

Headquartered at Fort Monmouth, N.J., Program Executive Officer BG Thomas Cole and seven project & product managers lead a team of Soldiers, DoD Civilians and contractors in the development and sustainment of systems that cover the gamut of military needs.

"Having the opportunity to lead the IEW&S team is extremely special because of the amazing impact we have on Soldiers, Sailors, Marines and Airmen," said Cole. "You'd be hard pressed to find a Soldier in Iraq or Afghanistan that is fighting in the Global War on Terror without directly using or benefiting from a system we are responsible for fielding and sustaining."

Success at IEW&S is achieved through the ability to rapidly transform requirements and requests from the field into reality. The PEO budget is equally divided between programs of record such as Distributed Common Ground Station-Army, Aerial Common Sensor and Common Sensor Payload and Quick Reaction Capabilities such as Rapid Aerostat Initial Deployment, Base Expeditionary Targeting and Surveillance Systems-Combined, and Task Force Observe, Detect, Identify and Neutralize (ODIN) systems.

The following are the teams that contribute

to the overall continued success of the PEO IEW&S:

Product Director Aircraft Survivability Equipment (PD ASE)

The task of equipping all Army aircraft with self-protection systems that are modular, integrated, and optimized to ensure survivability across the range of operations is the mission of PD ASE.

By far the most sophisticated ground-to-air threat systems in the world today utilize radar detection and radio frequency guidance systems. The objective of the PD ASE Radio Frequency Countermeasures (RFCM) office is to provide and improve radio frequency (RF) survivability for Army Aviation. The accurate detection, identification, prioritization and reporting of RF emitters in the battlespace provides Army aircrews one of many facets of the situational awareness required for mission success.

Many modern aviation threat systems are either laser guided or laser-aided (e.g. laser range finders). Laser warning increases aircrew situational awareness and is designed to enable the aircrew to take appropriate actions. The latest Army laser warning device is the AN/AVR-2B(V) Laser Detecting Set (LDS). The LDS is vital to force protection and provides warnings to aircraft pilots of laser threats and laser-aided air defense networks such as Surface-to-Air Missiles, Air-to-Air Missiles and Anti-Aircraft Artillery.

Following the loss of a CH-47 Chinook heli

"IEW&S," Continues Next Page



copter to an enemy missile in November 2003, then Acting Secretary of the Army, R.L. Brownlee called for a plan, "... to equip all our helicopters in Iraq and Afghanistan with the most effective systems we have in development or procurement." In response to this challenge, Common Missile Warning System / Improved Countermeasure Dispenser (CMWS/ICMD) production was immediately accelerated. Today over 500 aircraft are deployed in South West Asia with fully operational CMWS/ICMD systems that have flown over 551,000 hours in the combat theater.

Project Manager Aerial Common Sensors (PM ACS)

Modernization of existing programs has been the mission of PM ACS since January 2006, when it assumed responsibility for modernization programs for the Guardrail Signals Intelligence (SIGINT) system and Aerial Reconnaissance Low (ARL) Multi INT system and the System Development and Demonstration program for the unmanned Tactical SIGINT Payload (TSP). With the growing urgent need for aerial reconnaissance, surveillance and target acquisition (RSTA) in support of ongoing operations, PMACS assumed responsibility for integration of multiple aerial RSTA QRC systems into Task Force Observe, Detect, Identify and Neutralize (TF ODIN) ground equipment. This further led to PM ACS assuming management of the Constant Hawk and Highlighter aerial sensor platforms and development of the Aerial Reconnaissance Multi Sensor System (ARMSS).

Recent developments within the PM include Army Requirements Oversight Council approval of the ACS Capability Development Document, officially establishing Army requirements for the revised ACS program. ACS will provide SIGINT payloads to Special Operations Command for integration on their air vehicle. PM ACS also completed successful fielding of the Guardrail Ground Baseline (GGB) equipment to four Aerial Exploitation Battalions while supporting ongoing operations. The GGB equipment significantly reduces logistics footprint and has allowed the Intelligence and Security Command to facilitate capability-based rotations tailoring Guardrail capability to operational needs.

Project Manager Navigation Systems

PM Navigation System's contribution to the Warfighter is centered on its Meteorological Measuring Set-Profiler, Joint Combat Identification Marking System and Global Positioning System.

The AN/TMQ-52A Meteorological Measuring Set -Profiler (MMS-P) utilizes a suite of meteorological (MET) sensors and MET data from communications satellites along with advanced weather modeling to provide highly accurate MET



U.S. Army Photo

A Prophet vehicle with mast extended in Baghdad.

data. By providing accurate MET data through the Advanced Field Artillery Tactical Data System (AFATDS) to the guns, Profiler enables the artillery to have a greater probability of first round fire for effect with indirect fire.

With all the perils the fog of war could cause, the Joint Combat Identification Marking System (JCIMS) assists in the prevention of friendly fire



U.S. Army Photo

A Soldier acquires information using Handheld Interagency Identity Detection Equipment in Iraq.

casualties. JCIMS provides Soldiers with a low cost combat identification capability.

JCIMS consists of Combat Identification Panels (CIPs), Thermal Identification Panels (TIPs), and Phoenix Infrared Lights (IRs). CIPs provide ground-to-ground and limited air-to-ground target identification. The TIPs provide air-to-ground and a limited ground-to-ground target identification capability. Phoenix Lights are IR blinking strobes visible through Night Vision Goggles, which provide ground-to-ground and air-to-ground target identification.

With Soldiers constituting the majority of military GPS users, the Product Manager for Global Positioning System (PM GPS) manages most

military GPS systems. The PM is responsible for various receivers including the state-of-the-art handheld receiver, AN/PSN-13A Defense Advanced GPS Receiver (DAGR), an embeddable state-of-the-art GPS receiver, the Ground-Based GPS Receiver Applications Module (GB-GRAM) and the legacy handheld receiver, the AN/PSN11(V)1 Precision Lightweight GPS Receiver (PLGR).

Since initial fielding of DAGR in FY 2004, more than 116,500 have been delivered to Army users. DAGR was designed for handheld operation and for quick mount installation to provide military GPS to a wide variety of weapon system platforms.

PM Night Vision/Reconnaissance Surveillance and Target Acquisition (NV/RSTA)

The Project Manager NV/RSTA has the distinction of being responsible for the greatest number of systems within PEO IEW&S. The program is comprised of PM Forward Looking Infrared (FLIR), PM Robotics and Unmanned Sensors, PM Radars and the Rapid Aerostat Initial Deployment office. All are dedicated to develop, provide and support world-class tactical sensor systems and sensor solutions that produce actionable information for U.S. and coalition forces to enable Warfighter supremacy.

Product Manager FLIR provides Soldiers with the Fire Support Sensor System (FS3), Driver's Vision Enhancer (DVE), AN/VAS-5, Multi-Platform Replacement Sight (MRS), Long Range Advanced Scout Surveillance System (LRAS3), Close Surveillance Support System (CS3) and the Horizontal Technology Integration Second Generation FLIR.

The Product Manager for Robotic and Unmanned Sensors develops, produces, fields and sustains Army and DoD multi-purpose RSTA Sensors and sensor systems for unmanned and unattended air and ground applications in support of the 21st century Warfighter to include: Persistent Surveillance & Dissemination System of Systems, Persistent Threat Detection System, NS Microwave Tactical Surveillance System, Unattended Transient Acoustic MASINT System, Rapid Deployment Integrated Surveillance System, unmanned aerial vehicle Synthetic Aperture Radar/Ground Moving Target Indicator and Future Combat System Unattended Ground Sensors.

The RAID Product Office rapidly develops, tests, fields, and manages a low-cost, elevated sensor system that improves coalition force protection and enhances tactical decision-making. Featured systems include: Rapid Aerostat Initial Deployment, the 17M Aerostat System, the 107' Tower System and Mobile Eagle Eye.

Product Manager Radars provides central

ized management of Weapon Locating Radar Systems developed to meet Army fire support requirements. The array of radars this PM supports include: Firefinder Radar AN/TPQ-36(V)8, Firefinder Radar AN/TPQ-37(V)8, Fire Support Digitization AN/TPQ-37, Lightweight Counter Mortar Radar, Firefinder Radar Enhanced AN/TPQ-36.

Product Director Signals Warfare (SW)

While focusing on the needs of the Warfighter, FY 2007 proved to be a very productive year for the PD SW. With a combined \$677 million executed, the Product Managers for Counter Remote Controlled Improvised Explosive Device Electronic Warfare (CREW), and Prophet, were able to contribute vital resources to the Global War on Terror with the Product Director for Signals Warfare (SW).

The Product Manager CREW is responsible for developing and fielding ground-based electronic countermeasure (ECM) devices that neutralize the pervasive improvised explosive device threat encountered in Operation Iraqi Freedom and Operation Enduring Freedom.

Product Manager CREW fielded over 10,000 Duke systems to theater, bringing the total to more than 22,000 systems fielded to operations in Iraq and Afghanistan. The CREW team's Integrated Logistics and Supportability team won the 2007 ASAALT Acquisition Excellence Award as the best team in the Army equipping and sustaining Soldier systems.

The Prophet serves as a 24-hour, day-or-night, all weather, near-real time, interoperable asset that provides electronic order of battle and combat information to the Warfighter. Product Manager Prophet fielded 15 Prophet Block I Sensors and six Prophet Block I Controls in 2007.

Project Manager Distributed Common Ground Station-Army (DCGS-A)

Allowing commanders and other decision makers to leverage multiple sources of information to synchronize the elements of joint and combined arms combat power is the mission of PM DCGS-A. The DCGS-A enables and supports situational understanding to execute maneuver and effects, visualizing the threat and environment (terrain & weather), targeting and information operations, and integrating intelligence, surveillance and reconnaissance assets.

DCGS-A is the net-centric ISR component of the Army's future force Battle Command System (BCS) and the primary system for ISR tasking, posting, processing, and using information about the threat, weather, and terrain at the Joint Task Force level and below. It provides access to theater and national intelligence collection, analysis, early warning and targeting capabilities and emphasizes the use of reach and split-based operations to improve accessibility to data and reduce the forward footprint.

DCGS-A consolidates the capabilities found



Photo by Staff Sgt. Joseph Roberts

SPC Wayne Hutchinson uses sophisticated target acquisition equipment to identify a target during a live-fire artillery exercise outside of Ar Ramadi, Iraq. Hutchinson is a forward observer assigned to the 1st Infantry Division's 1st Battalion, 16th Infantry Regiment.

in the following current force systems: all versions of the All Source Analysis System (ASAS), the Counter-Intelligence/Human Intelligence (CI/HUMINT) Work Station and Human Domain, all versions of the Tactical Exploitation System (TES), all versions of the Guardrail Common Sensor (GRCS) ground processors (e.g., Intelligence Processing Facility (IPF), Guardrail Information Node (GRIFN), Prophet Control (PC), JSTARS Common Ground Station (CGS), and will integrate select capabilities of the Digital Topographic Support System (DTSS), the Integrated Meteorological System (IMETS), and Enhanced Trackwolf.

PD Army Space Program Office/Tactical Exploitation of National Capabilities (ASPO/TENCAP)

Allowing soldiers to identify and track the high volume of potential threats they face in Iraq and Afghanistan is possible due in part to two PM TENCAP systems.

The Handheld Interagency Identity Detection Equipment (HIIDE) is a handheld, tactical, multi-modal (iris, fingerprint and face photo), biometric enrollment and identification device. The HIIDE provides users the ability to enroll 1,000 individuals and store up to 10,000 full biometric portfolios, two iris templates, 10 fingerprints and a facial image) to identify a subject.


The HIIDE proved to be exceptionally well suited for decentralized use across both special operations and conventional force operations in support of rapid target site exploitation, population enrollment (virtual local census), chokepoint identity establishment, and detainee screening. HIIDE device use at the squad level enables Soldiers and Marines to "enroll their neighborhood," reduce insurgent ability to operate anonymously

and rapidly identify outsiders as a critical component of providing operational security.

The Counter Intelligence/Human Intelligence Automated Reporting and Collection System (CHARCS) systems provide collection and reporting automation support for Tactical Counterintelligence and Human Intelligence (CI/HUMINT) information operations, investigations, interrogations, document exploitation, biometrics, and force protection mission requirements.

The CHARCS provide counterintelligence (CI) investigators, human intelligence (HUMINT) team soldiers, and interrogators automation support for the collection, reporting, and dissemination of HUMINT and CI information, imagery, and biometrics. CHARCS provides automation systems and software tools for the collection, reporting, production, and mission management of actionable intelligence reports and associated data. It is designed to support the commander's ability to anticipate and react to a wide range of human intelligence and force protection threats and situations.

IEW&S Future

IEW&S stands poised to continue thinking outside the box to provide Soldiers in the field the tools and equipment necessary to fight today's wars as well as those to come. "The Joint Warfighter along with our coalition partners will continue to benefit from the outstanding ingenuity and forward thinking from the combined efforts of IEW&S, CERDEC and CECOM as well as our fellow PEO programs," said Cole. "Our ability to address the needs of Soldiers and then provide them with the capabilities to enhance survivability and lethality in the most effective and financially responsible manner is paramount to our success" 

Worldwide portal continues growth

By Jill Finnie
EIS Correspondent

Army Knowledge Online/Defense Knowledge Online (AKO/DKO), the premier military Services Web portal provides enterprise-level services to nearly two million registered users -- enhancing collaboration efforts by enabling the Services to organize and share information and be strategically responsive and dominant at every point in the spectrum of defense operations. These services include universal directory services for user situational awareness, webmail, web-conferencing/collaboration tools, and instant messaging/chat amongst Army and joint users.

AKO/DKO has recently deployed AKO/DKO-Forward in Southwest Asia to correct latency and re-

sponsiveness problems for the deployed workforce.

The initial deployment of AKO/DKO-Forward provides all AKO/DKO services, pushing forward secure, validated Army and Joint data to Soldiers and DoD personnel, ultimately increasing efficiency and reducing costs for the Army.

The AKO/DKO project office is located at Fort Belvoir, Virginia.

A staff of more than 200 maintains the AKO/DKO portal and the Army public homepage, 24 hours a day, 365 days a year for millions of customers worldwide.

AKO/DKO usage is on the rise and so is its ever-increasing ability to connect deployed Soldiers with



timely critical information. In the past 12 months, AKO/DKO facilitated transmission of nearly three billion e-mail messages, 13 million instant messages and 284,000 video messages. The webmail system blocked nearly half a million Spam or suspected Spam email messages and detected and blocked more than 524,000 email

viruses.

AKO/DKO hosts more than 100 public Web sites, including the CENTCOM home page, XVIII Airborne Corps and the 101st Airborne Division. AKO/DKO is also used to support Soldiers and Army family members by providing secure webmail, video messaging, and family readiness group websites for communication

with and the morale of Soldiers and family members.

AKO/DKO is coordinating with other Defense Department organizations to bring user populations for the entire Department of Defense user population to the new DKO portal being built on the existing AKO platform to further the Army's vision of a net-centric environment.

Capability intercepts 100th assault

By Timothy L. Rider
Spectra Editor

The Army passed a milestone in its continuing efforts to provide a capability to counter the indirect fire threat with the 100th successful intercept of a rocket or mortar round fired at high value Multi-National Corps-Iraq assets in late March.

Achieving its first intercept in March 2006 by disabling an inbound mortar round and precluding damage on the ground, the Counter Rocket, Artillery and Mortar (C-RAM) capability has also provided over 1,500 localized warnings of incoming attacks allowing troops time to take protective cover -- all since its initial operational capability was declared in July 2005, according to C-RAM Program Director, Michael J. Van Rassen.

"Other possible engagements were automatically aborted to preclude endangering friendly aircraft from rounds fired by C-RAM's intercept system," said Van Rassen. "There have also been many instances where the enhanced situational awareness and timely distribution of data has made it possible

for Soldiers to kill or capture these threat forces," said Van Rassen.

The C-RAM capability is comprised of Department of Defense systems, most of which were already in existence and in use today. "The components have been uniquely integrated to provide our forces and coalition partners protection from the RAM threat," said Van Rassen.

Though the C-RAM program office is an Army office it works across the military branches and services to develop a capability from several component systems, creating what is in military lexicon a, "system-of-systems."

This system-of-systems includes field artillery and air defense sensors, a commercial industry produced warning system, and a U.S. Navy-developed interceptor. It is tied to various response systems via U.S. Air Force, U.S. Marine Corps and Army battle command systems.

"Our office is a unique entity

within DoD," said Van Rassen. "We serve as an integrating project manager and the office itself is the lead system integrator for the effort. Its focus is on providing a capability and collective training as opposed to building a specific system."

"Seventy-five percent of the funding we receive, we spend with other Department of Defense project management offices," said Van Rassen. Working with its partner, the U.S. Air Force 642nd Electronic

Systems Squadron, the C-

RAM program has developed an Integrated Base Defense System of Systems, which was fielded to Army training bases, combat training centers and selected U.S. and Coalition

forward operating bases in Iraq. The capabilities of C-RAM are tailored specifically to the threat location. "We work with theater commanders to tailor the integrated solution that best meets the operational need and environment at various locations, balancing technology,

available equipment and personnel, training and tactics with how quickly the capability can get into the hands of the Warfighter. The priority of systems and locations change constantly with the ebb and flow of the threat," said Van Rassen.

"Defeating the RAM threat is not accomplished by any one piece of equipment, tactic, organizational or individual effort, but by a comprehensive effort with many contributing sources," said Van Rassen.

The C-RAM program office reflects this in their logo that displays six pillars, each highlighting an aspect of the challenge: Shape, Sense, Warn, Intercept, Respond, and Protect, all tied together by Command and Control.

The U.S. Army Training and Doctrine Command Fires Center of Excellence is the lead combat developer. The U.S. Army Program Executive Office (PEO) for Command, Control and Communications Tactical, the lead materiel developer. Significant support comes from PEO Intelligence, Electronic Warfare and Sensors, according to Van Rassen.

The C-RAM program office is located in Huntsville, Ala.



'Patio' the place for hardware tests

David G. Landmann
CTSF Correspondent

FORT HOOD, Texas – One of the great advantages the Whitfill Central Technical Support Facility (CTSF) offers its system clients is its ability to directly connect real-world hardware to its test floors.

In fact, it has become a common occurrence for Soldiers, government civilians and contractor passers-by to see all manner of Army vehicles and hardware parked beneath the covered area on the south side of the facility known as "The Patio".

"Because we can connect actual vehicles to our test floor," CTSF Test Officer Beverly Carter commented, "we can get to see firsthand how the vehicle responds to and interfaces with the boxes (software

test systems) on the floor."

Carter's job is assessing the interoperability capabilities of the software inside some of the Army's largest and most impressive rolling stock – the Abrams tank and the Bradley Fighting Vehicle.

"I get to see, without expensive travel, what the vehicle's systems do during testing," Carter said. She added being able to walk around, sit on and climb into a tank or a Bradley adds a more personal perspective to testing.

"The real advantage in the case of the Abrams and Bradley – having them right here – is if a screen goes blank, we can still ensure that the vehicle is capable of doing its job for the Soldier...in keeping the Soldier safe," she said.

Another aspect of the CTSF's ability to have hardware on hand is

the "in the flesh" test opportunities it affords test officers.

Erik Sandlin, whose job is assessing the interoperability of peripheral systems was asked to investigate why the Defense Advanced Global Positioning System Receiver (DAGR) occasionally, and inexplicably, lost its signal in the field.

Because Sandlin was able to physically move the system under and away from the CTSF test "Patio" while the DAGR was connected to computers on the test floor, he was able to determine that the signal outages were caused when the receiver was not out in the open – or was under the metal roof of the "Patio". He was also able to single out other obstacles to DAGR's functionality.

Asked if that conclusion could

have been reached in a remote test situation, Sandlin simply smiled and answered "no".

Proximity is the thing, according to CTSF Test Officer Jerry Wolf, a retired Blackhawk pilot, who tests aviation software.

"Basically, aircraft software can communicate with our test floor by satellite, but, when you've got the aircraft right here, and can talk directly with the pilot, it's a whole different thing," he said.

In the coming year, in conducting Army Interoperability Certification (AIC) as well as other types of tests, the CTSF will play host to Army rolling stock and other hardware more than a half dozen times, according to test planners.

A good thing? "Absolutely," Carter commented. "Hands-on testing is hard to beat."

Army STRIKEs at digital terrorist data

Erica Fineman-Bertoli
CERDEC Correspondent

Soldiers have a new tool to access and assess found media before its value decreases dramatically, thanks to a partnership between the Army and a small business.

Designed to be portable and user friendly, the System for Trlaging Key Evidence, or STRIKE is the fruit of collaboration between Army civilians and small business identifying and addressing gaps in needed technology.

Historically, electronic media devices such as flash drives, cell phones and personal digital assistants (PDA's) had be sent to specialized digital forensics labs, far removed from the Soldier at the front. The time it would take to transfer the device and have it analyzed often rendered information "old" before it could be put to use.

"STRIKE is a unique digital media exploitation tool that allows the Warfighter to immediately extract tactical intelligence from confiscated media on the battlefield," said Gary Kumetz, U.S. Army Communica-



tions-Electronics Research, Development & Engineering Center Intelligence and Information Warfare Directorate (I2WD) computer scientist.

Mission specific information can be uploaded to the system, insuring that only pertinent information is displayed. This reduces the need to lose time sifting through unrelated data to find those pieces of intelligence that can save lives.

STRIKE users can upload multiple dictionaries facilitating multilingual keyword searches. The system also includes face recognition capabilities as well as an expandable

design that will allow the device to evolve with new generation digital media.

STRIKE is a functional and easy to use media-acquisition and analysis tool that can be loaded onto a variety of platforms including laptops and PDA's.

Like basic technologies with which Soldiers are familiar, STRIKE's Graphic User Interface is easy to read and navigate. Careful attention was paid to the limitations on mobility created by gloves and other protective gear. As such, buttons were made over-large and easily accessible to increase usability.

Testing showed that even users with limited technology experience can be fully trained in as little as two hours, according to Kumetz.

"STRIKE was designed to give the Soldier an edge by automating the expertise of a digital forensics examiner, a translator and an intelligence analyst into an easy-to-use software package," said Kumetz.

The technology gaps leading to STRIKE were filled by Army civilian employees from the I2WD, through participation in the Small Business Innovation Research

(SBIR) Program, which teamed with IDEAL Technology Corporation.

With an eye to utilizing all available avenues of innovation, the overarching goal of various SBIR projects is to give small businesses an opportunity to develop and implement technology with both military and commercial application. Ideally, through the creation and successful launch of SBIR projects, the small businesses involved become independently solvent, allowing multiple arms of the government and military to purchase the technology at competitive commercial rates.

"The STRIKE project is an excellent example of the positive aspects of this program," said I2WD Information/ Network Operations Division Chief Kevin Boyle. "This Forensics capability, conceived by a government engineer at I2WD, started as a SBIR Phase One project and has resulted in a joint capability supporting current operations. This small business, IDEAL, and the I2WD engineering staff, have continued to refine the product to support multiple user needs and address feedback from operational assessments," Boyle said.

CECOM LIFE CYCLE MANAGEMENT COMMAND

Acquisition Center

MISSION: *Provide our customers value-added acquisition business solutions that support the Joint Warfighter.*

The CECOM LCMC Acquisition Center is a full-service, lifecycle acquisition organization that is expert in market research as well as the solicitation, award and administration of contracts, grants, cooperative agreements and other transactions. The CECOM Acquisition Center takes a proactive approach to contracting excellence through its People, Automation, Continuous Process Improvement and Education (PACE 2). Through this approach, the CECOM LCMC Acquisition Center has become the acquisition center of choice, where innovative people provide exceptional C4ISR capabilities to the Joint Warfighter. The CECOM LCMC Acquisition Center provides a full spectrum of world class, quality acquisition services. Major commodities include aviation communications, man-portable

radios, radar systems, computers, satellite communications, night vision equipment, command and control systems, sensors, information management systems, battery and power sources, intelligence and electronic warfare systems, mines, countermines, facilities supplies and a host of technical services that support its various customers' mission responsibilities. The CECOM LCMC Acquisition Center supports all Army Team C4ISR organizations, as well as PEO Aviation and PEO Soldier. The CECOM Acquisition Center has also been successful in attracting new business from the Office of the Secretary of Defense, the U.S. Air Force, the Drug Enforcement Administration and other Department of the Army sponsored initiatives.



LEFT to RIGHT: Mike Cermak, Nick Racioppi and Dennis Allen discuss an acquisition strategy.

LOCATION: *The CECOM LCMC Acquisition Center has locations at Fort Monmouth, New Jersey, Alexandria, Virginia and Fort Huachuca, Arizona. It also maintains "Head of the Contracting Activity" and "Principal Assistant Responsible for Contracting" activities at Tobyhanna Army Depot.*

Army TEAM C4ISR



EDWARD G. ELGART
SENIOR EXECUTIVE
SERVICE

Edward G. Elgart is the Director of the Acquisition Center, U.S. Army Communications-Electronics Life Cycle Management Command with locations at Fort Monmouth, N.J., Fort Huachuca, Ariz., and Alexandria, Va.

He also serves as the principal assistant responsible for contracting for that activity, Tobyhanna Army Depot and Technical Application Office, Fort Detrick, Md. He is responsible for the acquisition and support of Army and joint command, control, communications, computers, intelligence, surveillance, and reconnaissance systems,



Center: First contact for C4ISR contracts

SPOTLIGHT

By Danielle S. Oglevee
Acquisition Correspondent

The U.S. Army Communications-Electronics Life Cycle Management Command Acquisition Center's mission responsibilities are fundamentally based upon the Armed Services Procurement Act of 1947. The act provides for the acquisition by contract with appropriated funds of supplies or services from non-federal sources by and for the use of the federal government.

The Acquisition Center primarily acquires research, development, production and sustainment services of highly complex, state-of-the-art command, control, communications, computer, intelligence, surveillance and reconnaissance systems for the Army, Joint services and coalition forces.

A proactive approach to contracting excellence through prudent resourcing of people, automation, continuous process improvement and education continue to be the Acquisition Center's ingredients for success in obtaining its mission goals.

The Center's organizational structure remains basically unchanged from year-to-year except for the occasional addition of a new position and minor adjustments occasioned by attrition, retirement or reassignment. The Center consists of a Customer Executive Board comprised of a director, the deputy director, and seven sector chiefs.

The Center is a flexible and fluid organization that is focused on customer satisfaction, maintaining solid business relationships and providing sound acquisition business solutions. These long-proven operating principles continue to enhance the Center's reputation for excellence throughout the Army, the Department of Defense and our industry partners. Center personnel consist of customer representatives, joint partnering contracting and contracting officer pools. This organizational concept provides specific service to major customers, general service to a large array of customers and permits a strategic alignment with significant industry partners.

The Center also includes an Acquisition Business Process Sector, which is focused on furthering acquisition process changes and

transformation. Its focus areas include, but are not limited to, change management, performance metrics, electronic commerce, workforce development and manpower and budget challenges.

Obligations, Programs, Products & Services

The Acquisition Center maintains a ready staff of contracting officers and specialists with the ability to expedite the delivery of defense systems, specifically C4ISR systems, in response to joint tactical and operational forces participating in the full spectrum of military operations and armed conflict overseas. The Acquisition Center services 100 customers. With the majority of acquisitions being for production (51.1 percent), the Acquisition Center also procures many services (36.9



Edward G. Elgart presents Chris Heim with his Contracting Officer's Warrant.

percent) and research and development efforts (12 percent).

During the federal fiscal year 2007, the Acquisition Center obligated \$14.5 billion and executed a total of 25,400 contract actions. So far this year, the Acquisition Center exceeds last year's obligations by 12 percent and actions by approximately 6.5 percent.

Many awards and contractual modifications are often expedited to immediately satisfy urgent requirements including those in support of Operation Iraqi Freedom and Operation Enduring Freedom.

In addition, the Acquisition Center continues with its ongoing mission to provide contingency contracting support as directed for worldwide operational theaters.

"The Center," Continues Next Page »

Key Leader Profile

estimated in excess of \$14 billion annually. Twice during his tenure, Mr. Elgart has served as the Acting Deputy Assistant Secretary of the Army for Procurement from August 2000 - January 2002 and May 1997 - May 1998.

In that capacity, he was responsible for oversight and policy for all Army procurements, acquisition excellence and reform, and advocacy for the industrial base, as well as the proponent for the Army contracting career field.

He completely revised Army procurement regulations and source selection policies during that assignment. Additionally, in partnership with the user community, he helped define doctrine for contractors on the battlefield. He also acted as the Army's competition advocate general during that time. Mr. Elgart was instrumental in directing resources to reconstitute Army procurement operations in the Pentagon following the Sept. 11, 2001 attack.

From 1985-1989, Mr. Elgart served in a variety of management positions with the Defense Logistics Agency, first at DCASPRO Teledyne CAE, then at DCASMA Detroit, and culminating as the Director of Contract Management for Defense Contract Administration Services Region Chicago. In that position, he was responsible for the administration of 18,000 defense contracts valued in excess of \$19 billion.

Mr. Elgart began his career in government service in 1976 as a contract specialist intern. As a contracting officer he was responsible for the negotiation and award of the \$4.3 billion contract for the Mobile Subscriber Equipment battlefield communications system.

SPOTLIGHT Center's secret of success: People

The CECOM LCMC Acquisition Workforce is comprised of a dedicated group of employees from various backgrounds. Each individual brings to the Center a myriad of skills and personalities that when combined; create an atmosphere of diversity and excellence. Over 26 percent of the workforce holds a master's degree or higher. Whether here for a month, a year or 40 years, the CECOM Acquisition Center's employees all have a story to tell.

Maryanne Lentini, of the CECOM LCMC Acquisition Center, Fort Monmouth, retired on Dec. 31 after 45 years in service. Beginning her federal career on Sept. 10, 1962 as a GS-03, clerk stenographer, Lentini remained loyal and dedicated to the Acquisition Center, ending her career as a GS-12, procurement analyst working in Systems. On Dec. 20, just days before Lentini's retirement, CECOM LCMC Commanding General, MG Dennis L. Via, presented Lentini with a Years in Service Certificate.

The CECOM LCMC Acquisition Center is proud to be the employer of individuals making great contributions in the world of Army Contracting. While all Acquisition Center employees deserve recognition for the great strides they make each day, some are publicly recognized as recipients of prestigious awards.

The CECOM LCMC Acquisition Center Contracting Team for the World Wide Satellite Systems (WWSS) was presented with the Frank S. Besson Award for Contracting Excellence in 2007. This award program is one of a few intended to exclusively recognize the Army Materiel Command contracting workforce for outstanding achievements during the fiscal year. The WWSS Contracting Team, consisting of five Acquisition Center employees, awarded a total of six extremely unique contracts for critical turn-key solutions for both hardware and services for all the various WWSS terminal types.

The Center is also home to the 2007 Team C4ISR Employee of the Year in the Junior Category, Bryan C. McGann, who was presented his award at a ceremony in February. Currently a GS-09, McGann is a dedicated and

respected contracting professional who has proved himself to be a tremendous asset to the Acquisition Center.

The Team C4ISR Team of the Quarter Award for the first quarter of Fiscal Year 2008 was awarded to a group of individuals, mainly from

contracting. Both winners were presented with their awards in April at a ceremony for the 2007 Secretary of the Army Awards for Excellence in Contracting in Atlanta.

The CECOM LCMC Acquisition Center is a place where dedicated personnel come to learn together and work together to support the Warfighter everyday.

Intern Institute

In order to meet the challenges of a decrease in personnel and an increase in workload, the CECOM LCMC Acquisition Center created the Intern Institute. Upon entry into the Acquisition Center, interns receive two months of formal in-house classroom training. Off-site training facilities ensure dedicated classroom instruction and a focused training environment.

Instructors are experienced, in-house contracting personnel and experts in a variety of subjects. The average instructor to student ratio at the Intern Institute is 1:12. The Acquisition Center's Intern Institute's institutionalized curricu-

lum has set an example which is followed by other U.S. Government agencies. The U.S. Tank and Automotive Lifecycle Management Command modeled their "Intern Boot Camp" after the Acquisition Center's model.

With its first class beginning in February 2002, 233 local and Department of the Army interns had graduated from the Intern Institute as of May. Results of the Intern Institute can be seen in a myriad of ways. For one, a group of individuals become equipped with a skill-set that enables them to be an immediate asset to the workforce. The training program provides "real-world" experience designed to allow the interns to hit the ground running. In addition to these immediate results, long term results can be seen in increased retention, a strong foundation for learning and a greater understanding of the organizational mission.

In addition, the strong bond between the interns enhances workplace morale though the many endeavors that the interns become involved with. Whether it be through the formation of a sports team, an after work get-together, or working together on the intern newsletter, "Relevant and Ready," the interns add a colorful and vibrant flavor to the Acquisition Center.



U.S. Army Photo

Edward G. Elgart meets with a group of incoming interns in April 2006. (L to R) Natalya Gnyp, Danielle Seaman, Jacqueline Donlon, Kathryn (Katie) Wortman, David Chiola, Dana Maiocco, Valerie Lee, Mr. Elgart, Charlene McMillan, Kazzandra Dexter, and Peter Lewandowski.



U.S. Army Photo

Team C4ISR Employee of the Year, Bryan McGann.



U.S. Army Photo

Sharon Wilson-Emmons.

the Acquisition Center for their outstanding efforts in the award of a competitive, best value contract for urgently needed radios to support the transition from U.S. forces to the Iraqi Security Forces. "The wealth of knowledge in each of the organizations was overwhelming, and helped to overcome any difficulty in coordinating this time-sensitive effort," said Senior Contract Specialist Cynthia Cook regarding the collaborative effort between the Acquisition Center, CECOM LCMC Legal Office and Security Assistance Management Directorate.

Recently, two CECOM LCMC procuring contracting officers were recipients of the 2007 Secretary of the Army Awards for Contracting Excellence. Alex

Matejka won the Outstanding Contracting Officer for Logistics Support (Sustainment) Contracting. Sharon Wilson-Emmons was the recipient of the Outstanding Contracting Officer for Systems Con-



U.S. Army Photo

Alex Matejka

E-Tools lead in acquisitions reform

SPOTLIGHT

Because contract dollars obligated and contract actions awarded have significantly increased during a time when manpower is decreasing, the CECOM LCMC Acquisition Center worked on the creation of electronic contracting and business intelligence tools. Dubbed "E-Tools," this suite of interactive, real-time, business tools has made processes easier and day-to-day contracting activities more efficient. Not only do E-tools create a more streamlined way of doing business, they will also ease the transition of Army Team C4ISR to Aberdeen Proving Ground, Md.

Project Contract Folder puts at the user's fingertips the ability to electronically create, view, manage, edit, review and approve, and archive as official records acquisition documents in one central location. This secure, web-based application automates a number of acquisition processes that formerly relied upon the physical movement of paper. PCF provides a single electronic location for

the storage of all acquisition documents and provides review and approval cycles that reflect an organization's business practices. Most notably, PCF was recently selected to be an Army Enterprise Solution for Contracting. PCF also won the GSA/E-Gov Best Business Practice Award for 2003.

The Acquisition Source Selection Interactive Support Tool is a secure, web-based best value source selection data management workflow tool. ASSIST significantly improves the organization and management of written documentation related to the source selection. Because remote access is a feature of ASSIST, Source Selection Evaluation Boards can be conducted with geographically dispersed members, saving time and dollars. ASSIST also enhances the capability of first-time evaluators in understanding and properly performing their SSEB duties through artificial intelligence features. This valuable E-Tool is integrated with the Interac-

tive Business Opportunities Page to conduct secure communications with each offeror. An added bonus is the ability to quickly and easily export data into customizable Power Point presentations for briefings. Some of the Acquisition Center's most significant procurements have utilized ASSIST to include, but not limited to: Logistics Modernization Program, Army Advertising and Recruitment Program, Counter Remote Control Improvised Explosive Device Electronic Warfare System, Spiral 2 and the Iraq Reconstruction Program.

The Reverse Auction tool utilizes an acquisition technique which allows vendors to bid down to compete for work. Approximately 200 auctions have been conducted to date resulting in 32.6 percent savings equating to over \$52 million. The reverse auction is a paperless process which reduces cycle time, and it is easy-to-use for both users and administrators. The competitive market determines price in real-time, yielding the best prices to our customers.



Highlights of the Center's support to current operations

Over Fiscal Year 2007, the Acquisition Center efficiently and effectively supported the ongoing operations in the Global War on Terrorism. In total, the Acquisition Center executed over 487 contractual actions with a total value of over \$2 billion in support of these efforts. To date in fiscal year 2008, the Center has awarded 373 awards worth \$1.4 billion in support of these operations. Although not inclusive of all the on-going programs and milestones the Center achieved, the following highlights the outstanding acquisition support provided:

Warfighter Information Network

When the need for enhanced satellite communication capability was recognized due to the pace of modern warfare, the CECOM LCMC Acquisition Center was called upon by Project Manager Tactical Radio Communications Systems (now PM Command Post) to secure a new, modernized communications

network. On Sept. 28, 2007, the CECOM Acquisition Center's Joint Network Node JNN Team awarded a contract to satisfy this critical need for the Army. The Joint Network Node has since become Warfighter Information Network-Tactical Increment One. The JNN contract is a five-year indefinite delivery/indefinite quantity contract with a



A WIN-T Increment One Brigade Subscriber Node

ceiling of \$1.43 billion. The contracting team's efforts to accomplish a timely contract award greatly contributed to the program's success resulting in the fielding of a product that increases the Soldiers' effectiveness and lethality.

Common Missile Warning System

The CMWS is a component of the Army's Suite of Infrared Countermeasures used to protect Department of Defense helicopters and fixed-wing aircraft. It has been designed to address the increased threat from infrared-guided surface-to-air missiles. CMWS identifies valid threat missiles while suppressing false alarms, audibly and visually warns pilots, and cues existing dispensers for release of flare decoys. The CMWS functions as a stand-alone missile warning system or as part of the Advanced Threat Infrared Countermea-

sures ATIRCM/CMWS countermeasures system. CMWS has the capability to detect missiles and provide audible and visual warnings to pilots but does not have the additional missile jamming capabilities of the ATIRCM/CMWS.

The contract for this advanced system has a contract ceiling of \$1.4 billion with obligations to date of approximately \$500 million. This contract is a hybrid contract (Firm Fixed Price and Time & Materials) for systems, spares, components and engineering and logistic support services.

The CMWS is used in direct support of Op-

erations Enduring Freedom and Iraqi Freedom. The contractor was awarded its first delivery order in May 2006 and delivered the initial 505 systems more than 12 months ahead of schedule to ensure that all Army aircraft operating in Iraq and Afghanistan were outfitted with this critical protective capability.

In September, the contractor delivered its 1,000th CMWS system. This program has grown significantly from the initial delivery of only four-per month to a current level of more than 40-per month.

CURRENT OPERATIONS Facility integrating 60 Army systems

By David Landmann
CTSF Correspondent

FORT HOOD, Texas – A small army of highly-skilled test officers, technicians, operators and technical writers has been engaged here since January at the Whitfill Central Technical Support Facility (CTSF) in a mission critical to the success and safety of Army Warfighters all over the world.

The objective: Making certain more than 60 software systems are capable of interoperating – or communicating – within the sea of digitized systems and platforms Soldiers are using now and will use in the future. The systems undergoing Army Interoperability Certification (AIC) testing are those making up a group of digital tools known to the Army as Software Block 2 (SWB2).

Under the guidance of the CTSF Technical Director, David McClung, the facility is actually nearing the end of SWB2 testing, and making ready for the next block of software assessments.

One-hundred CTSF employees have been working, in some cases day and night, to assess the interoperability of the SWB2 systems at test facilities here, at Fort Lewis, Wash. and Fort Monmouth, N.J.

The CTSF has been block testing since the Army unveiled the software blocking concept in 2001. It is one member of a larger team with the goal of getting LandWarNet and Battle Command systems successfully through the AIC process.

When the concept of software blocking was conceived, it was decided the Army would establish an evolutionary acquisition process focused on the development of an integrated "System of Systems" whose operational capability would be developed as blocks of interoperable software.

The idea was – and is – to synchronize the fielding of software while ensuring its interoperability with systems already on the battlefield.

And ensuring operability is

what the CTSF is all about.

The CTSF entered into Software Block I (SWB1) testing as the concept emerged, developing necessary assessment policies and procedures as software blocking matured.

"We had already been working on thread testing for Army interoperability," CTSF Certification Branch Chief Bob Kidwell said. "When software blocking came along we just expanded to a system of systems concept."

The first round of interoperability testing of approximately 50 systems comprising

The CTSF test cell's test officers are now assigned to teams, each comprised of two or more test officers, linked to the types of systems they are scrutinizing. Currently there are teams of data products, fires, instrumentation, intelligence, logistics, maneuver, platforms, and simulation/stimulation.

The test cell's teams have been engaged in the second iteration of testing the systems of SWB2. The first round of SWB2 interoperability assessment, executed in mid-2007, was curtailed when it was determined its systems were, as Kidwell put it, "not ready

system emerge, test officers may write Test Incident Reports (TIRs). The existence of TIRs, or the lack of them, determines the success or failure.

TIRs are directed to a weekly meeting of the CTSF Data Authentication Group (DAG) where the impact of the identified issue on the system is evaluated. In some cases, the members of the DAG may dismiss or "close" the TIR.

If the TIR is not closed, the findings of the DAG are then forwarded to an Executive Scoring Conference (ESC), comprised of CTSF test leadership, system representatives, TRADOC Capabilities Managers (TCMs) and local Battlefield Functional Area representatives, where the TIR is assigned a severity level from 1 to 5 – 1 being the most severe and 5 the least.

"The idea," CTSF Technical Director David McClung said, "is to weed out problems that could jeopardize the Warfighter when a system has been fielded."

Systems emerging from testing with open Severity Level 1 or 2 TIRs may fail their AIC assessments, or may be assigned conditional operational parameters.

After the test has been executed, the system representatives are presented with an executive summary report on the results of the interoperability assessment.

Each step involves the discerning efforts of trained CTSF staff, and each step was followed in preparation for and execution of current SWB2 testing.

"We're wrapping up the second iteration of Block 2 and are involved in planning for SWB2+ and Block 3. At the same time, we're conducting multiple regression tests to (resolve the test issues) in the tests that were completed," Kidwell said, pointing out that since the SWB1 systems were certified, the CTSF's workload has almost doubled.

"We're working on multiple blocks while also refining and streamlining our manual and instrumental data collection techniques we use at the same time," Kidwell said.

"The idea is to weed out problems that could jeopardize the Warfighter when a system has been fielded."

-- CTSF Technical Director, David McClung

SWB1, Kidwell recalled, began at the CTSF in early May of 2004.

"We failed the block," Kidwell said. He was quick to add that "failed the test" in that case, simply meant the systems really weren't ready for testing at that time.

The SWB1 test was restarted in January of 2005, and that testing also resulted in failure. A third round of SWB1 testing began in August of 2005 leading to certification of 38 systems, Kidwell recalled.

The results of that round of system interoperability assessment were put into written reports in January of 2006 and the test results were briefed to the Army Chief Information Officer/G-6 that February.

"That was an intense period of testing (May 2004 – February 2006)," Kidwell said, "and we accomplished it with about half of the staff we have now. We had no back-up (test personnel), so if someone was sick, something didn't get done."

Although the CTSF's interoperability workload has increased, its roster of test personnel has increased as well.

collectively" for testing.

"We have all but completed the second iteration (of SWB2 testing)...and it looks like it's almost ready for the field," Kidwell said.

Systems that are submitted to the CTSF for testing follow a rigorous set of standards that put them on a carefully laid-out path to eventual – but not certain – certification.

Initially, system developers must coordinate their proposed test threads (a kind of script utilized to put the system through its designed paces). Then a request to test is coordinated through CIO/G6.

Once a request for interoperability testing is approved, system representatives coordinate with the CTSF for the development of a test architecture and a test plan. Once the plan is approved, system representatives must ensure to CTSF officials that all of its system documentation is in order before actual testing can begin. System proponents then must be on hand, if necessary, for test set-up, testing itself, and regression testing.

During any phase of AIC assessment, should problems with a

Logistics Modernization Program

By Diane O' Connor

The U.S. Army is one of the largest organizations in the world, and its inventory dwarfs the collection of materiel held by other government and commercial entities. Additionally, the critical needs involved in many Army shipments cannot be compared to traditional logistics operations.


Over and above inventory management, order fulfillment and distribution, there are other elements to consider in the logistics process, such as demand planning and forecasting, maintenance program oversight, depot operations and financial management. By bringing all of these factors into alignment within one system, the Army's Logistics Modernization Program (LMP) offers enormous benefits. For example, the system directly serves the Warfighter by eliminating labor-intensive processes that previously stood between deployed units and needed equipment and supplies.

With the next-generation logistics capabilities enabled by LMP, item managers now have the tools they need to deliver the right equipment to Warfighters whenever and wherever they need it. Jacob Pezzicola, an item manager at the Army's CECOM Lifecycle Management Command, Logistics and

Readiness Center (CECOM-LRC) said, "Overall, the organization will absolutely benefit from implementing LMP. After full deployment, you will have a modern system being supported by a newly educated workforce able to deploy major items, components and repair parts to worldwide theaters of operation at any moment, helping support the Army Warfighter."

When an order comes in from Iraq, for example, an item manager can easily drill down to view increasing levels of detail about the incoming order. Using LMP, he can see the quantity of the order that is needed to complete an upcoming mission. Not only can he quickly check real-time inventory data showing the availability of assets at two principal storage depots, he can immediately determine any associated dependencies required to fulfill the order. Additionally, he can verify the deployed unit's geographic location and mission project code, and quickly ascertain the criticality of the order to prioritize outgoing shipments. With a few clicks of the mouse, he can simultaneously fill multiple orders in one transaction.

LMP has the capability to deliver it in real-time, providing updated information within five seconds of submitting a request. When fully deployed, LMP will support all aspects of the Army's national- and installation-level logistics. The advantages of putting the power of LMP's

comprehensive capabilities into the hands of logisticians are clear. The ability to access immense volumes of accurate logistics data, in a format that is quickly understood and actionable, transforms warfare by increasing agility and strength on the battlefield. With LMP, theater footprint is dramatically reduced because logisticians can better plan and allocate resources, thereby improving planning for maintenance and supply activities, which directly – and positively – affects weapon systems' operational availability. 

ABOUT THE AUTHOR

Diane O'Connor has been the Deputy Project Manager of the LMP Project Office since May 4, 2006. O'Connor exercises centralized authority and control over program-level resources, including funding, contracts, priorities, schedules, personnel, facilities and work performed by various supporting organizations.

She holds a Master's in Business Administration from Monmouth University and a Bachelor of Science in Business Management from Excelsior College. Ms. O'Connor is an established member of the Army Acquisition Corps and is certified at Level III in Acquisition Logistics and Level III in Program Management.

Electronic Sustainment Support Centers

By Mike Pettit

The transformation of Army logistics to meet the challenges of providing a leaner, yet more robust and responsive support structure may seem like a contradiction between manning realities and performance goals. Rather, the Army's new logistics strategy marries and leverages emerging enabling technologies, flexible and elastic organizational structures, and rapid response capabilities to assure success in homeland defense and on the battlefield. A significant part of the CECOM Life Cycle Management Command's (CECOM LCMC's) response to the Army mandate for a leaner, more responsive logistics structure is the formation and fielding of the CECOM LCMC Electronic Sustainment Support Centers, the ESSCs.

Originally formed in 1996 to provide a one-stop shop for Soldiers seeking maintenance support for their C4ISR weapons systems, the ESSC has grown exponentially in response to requirements in support of Operation Enduring Freedom and Operation Iraqi Freedom. The CECOM LCMC Logistics



Donald Tison, assistant deputy chief of staff for programs, Army G8, during a 2008 visit to the ESSC stands at Camp Arifjan, Kuwait with (Left to Right) Barbara Hansen, CECOM Senior Command Representative; Tison; Terry Grissett, ESSC Manager for Southwest Asia; LTC Christopher Colombo, G8 staff; and Fred Tremaine, contractor site lead.

and Readiness Center, Readiness Directorate, (LRC / DRE), Field Sustainment Support Division (FSSD) directs operations by the

ESSCs and the C4ISR Regional Support Centers (RSCs), the CECOM LCMC's primary means for delivering C4ISR systems' sustainment support to Warfighters worldwide. The ESSCs and their service providers work in partnership with the CECOM LCMC Logistics Assistance Representatives (LARs), who are focused on direct support to the C4ISR weapons systems' Warfighter-operators. Together, the LARS and the ESSC are the CECOM LCMC's "Face to the Field" for sustainment maintenance and logistics support of designated C4ISR weapons systems.

Regional ESSCs are co-located with Army Field Support Brigades (AFSBs) to execute the mission specified for Equipment Support Activities (ESAs). Organized under the AFSB Sustainment Directorate, ESAs are the doctrinal means for delivery of maintenance and logistics support to an operational area. The ESA executes its mission by leveraging the capabilities of assigned service providers, including Forward Repair Activates (FRAs). The ESA ensures all service providers are fully

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WHITFILL

Central Technical Support Facility

MISSION: Support interoperability engineering and execute Army Interoperability Certification testing while maintaining configuration control for all operational through tactical level Information Technology/National Security Systems while always supporting Warfighters' digital needs while they are deployed

As digitization of the Army's warfighting capability has grown and matured, the CTSF mission has expanded to integrate and test more than 70 net-centric systems – a number that is expected to grow in the near future as more and more Army systems become network enabled. The CTSF is now the Army's only facility to test theater-level System of Systems products in a net-centric environment. In short, the CTSF capability is key to ensuring the interoperability of Army and Joint digital systems on current and future battlefields.

Because of its reconfigurable design, the integration and test facility can support a wide range of tactical network architectures (many simultaneous) from individual vehicles all the way to theater-level. The flexibility and scalability of the test environment employed by the CTSF is not available anywhere else in the world. The employees of the CTSF provide unparalleled, uncompromised, consistent and responsive support to the Warfighter.

The investment the Army has made in the CTSF to ensure interoperability for Warfighters has become a shining success and a beacon for the Department of Defense in its attempt to develop interoperability across all services and warfighting domains.

While much work has yet to be done to achieve the DoD vision, the Army's CTSF stands ready to be an integral part of the plan to accomplish this goal. With its vast experience and dedicated workforce, the CTSF is meeting AIC integration challenges and has the resources to ensure Army interoperability in a Joint environment.

As the Army continues to develop new net-centric capabilities, the CTSF stands ready to integrate and test these C4I products for interoperability. The CTSF's vision is to become a customer-valued organization ensuring the best net-centric C4I capabilities are available to US Army, Joint, and Coalition Warfighters.

Army TEAM C4ISR



**COLONEL
STEVEN G. DRAKE**

Colonel Steven G. Drake received his commission through the Reserve Officer Training Corps at the University of Texas at El Paso in 1985 earning a B.S. in Geophysics. His military education includes the Air Defense Officer Basic and Advance Courses, Combined Arms Services Staff School, Command & General Staff College, the Defense Systems Management College's Advanced and Executive Program Management Courses, the Naval Postgraduate School where he earned an M.S. in Systems Acquisition Management and most recently, Senior Service College Fellow, University of Texas in Austin.

After leaving the University of Texas at El Paso, COL Drake was assigned as Platoon Leader, 4th Battalion, 3rd Air Defense Artillery (ADA) Regiment (PATRIOT) Giessen, Germany. Upon completion of his duties in Germany, he was assigned as Instructor, Of



LOCATION: Located at Fort Hood, Texas, the CTSF Campus covers more than 264,000 square feet, of which more than 40,000 square feet are dedicated for integration of software and AIC testing.



Key Leader Profile

ficer Basic Course, Fort Bliss, TX and subsequently went on to become a Tactical Director for the 3rd Battalion, 43rd ADA Regiment, Fort Bliss, Texas and then Commander, B Battery, 3rd Battalion, 43rd ADA Regiment, Fort Bliss. After this command COL Drake was assigned the duties as Assistant Operations Officer 3rd Battalion, 43rd ADA Regiment, Fort Bliss. Following accession into the Acquisition Corps he was assigned to Patriot, located at Redstone Arsenal, Ala., and then on to the Assistant Project Manager Forward Area Air Defense Command and Control, also located at Redstone Arsenal. His next assignment brought him back to Fort Bliss as the U.S. Army Training and Doctrine Command Project Manager SHORAD.

COL Drake's next assignment was as the Department of the Army System Coordinator Patriot Missile Defense, Theater High Altitude Area Defense, Medium Extended Air Defense Systems at the Pentagon. Responsibilities held during this assignment were Department of the Army system Coordinator and then Executive Officer for the Deputy Assistant Secretary of the Army (Acquisition, Logistics and Technology) for Systems Management.

His follow-on assignment was as Product Manager, Aerial Common Sensor, Fort Monmouth, N.J. His duties included developing the next generation airborne intelligence, surveillance and reconnaissance system for the Army to replace the current Guardrail and Airborne Reconnaissance Low airborne ISR systems.

He became the Director of the Whitfill Central Technical Support Facility (CTSF) at Fort Hood, Texas on July 16, 2007.

COL Drake's awards include the Meritorious Service Medal (5), Army Commendation Medal (4), Army Achievement Medal (5), Southwest Asia Service Medal (3) Valorous Unit Awards, Kuwait Liberation Medal and the Saudi Arabia/Kuwait Liberation Medal.



Photo by Richard Mattox

A staff member from the CTSF assists the 1st Brigade Combat Team, 4th Infantry Division as it prepared for deployment at the National Training Center, Fort Irwin, Calif in August 2007.

Facility tests, fixes path to Army interoperability

By MAJ Shawn Murray
CTSF Correspondent

Today's Warfighters trust that when they operate their vehicles or set up a tactical operations center, the command, control, communications, computer and intelligence systems inside will all work together or interoperate. Full interoperability of military systems is critical to America's success in the Global War on Terror and for operations into the future. Ensuring interoperability of net-centric systems is the mission of the Army's Whitfill Central Technical Support Facility (CTSF).

The CTSF is the Army's strategic command responsible for supporting interoperability engineering, executing Army Interoperability Certification (AIC) testing and maintaining configuration control for all operational software through Tactical Level Information Technology/National Security Systems (IT/NSS). The CTSF also supports Warfighters' digital needs while they are deployed.

In short, the CTSF's capability is key to ensuring the interoperability of Army and Joint digital systems on battlefields now and into the future.

Located at Fort Hood, Texas, the CTSF was organized in 1996 under what is now called the Program Executive Office Command, Control and Communications Tactical (PEO C3T). It was originally designed to provide a location for the rapid integration, testing and deployment of the Army Battle Command Systems, that was designed to

digitize the Army's battle command and control capability.

As digitization of the Army's warfighting capability has grown and matured, the CTSF's mission has expanded to integrate and test more than 200 net-centric systems. The number is expected to grow in the near future as more Army systems become network enabled.

In July 2007, the CTSF organized under the Army Materiel Command's CECOM Life Cycle Management Command.

The facility employs approximately 200 military and government civilian workers. It provides facilities for more than 400 additional government civilian workers from several program executive offices, in a teaming environment, geared to accomplishing Army interoperability, integration and certification.

The CTSF campus covers more than 264,000 square feet, of which more than 40,000 square feet are dedicated to integration of software and AIC testing.

Because of its reconfigurable design, the integration and test facility can support a wide range of tactical network architectures, many simultaneously, that vary in size from those that support individual vehicles all the way to theater level architectures.

According to CTSF Director COL Steven Drake, the facility's mission is "to provide a unique, innovative and scalable environment, with skilled

"CTSF," Continues Next Page



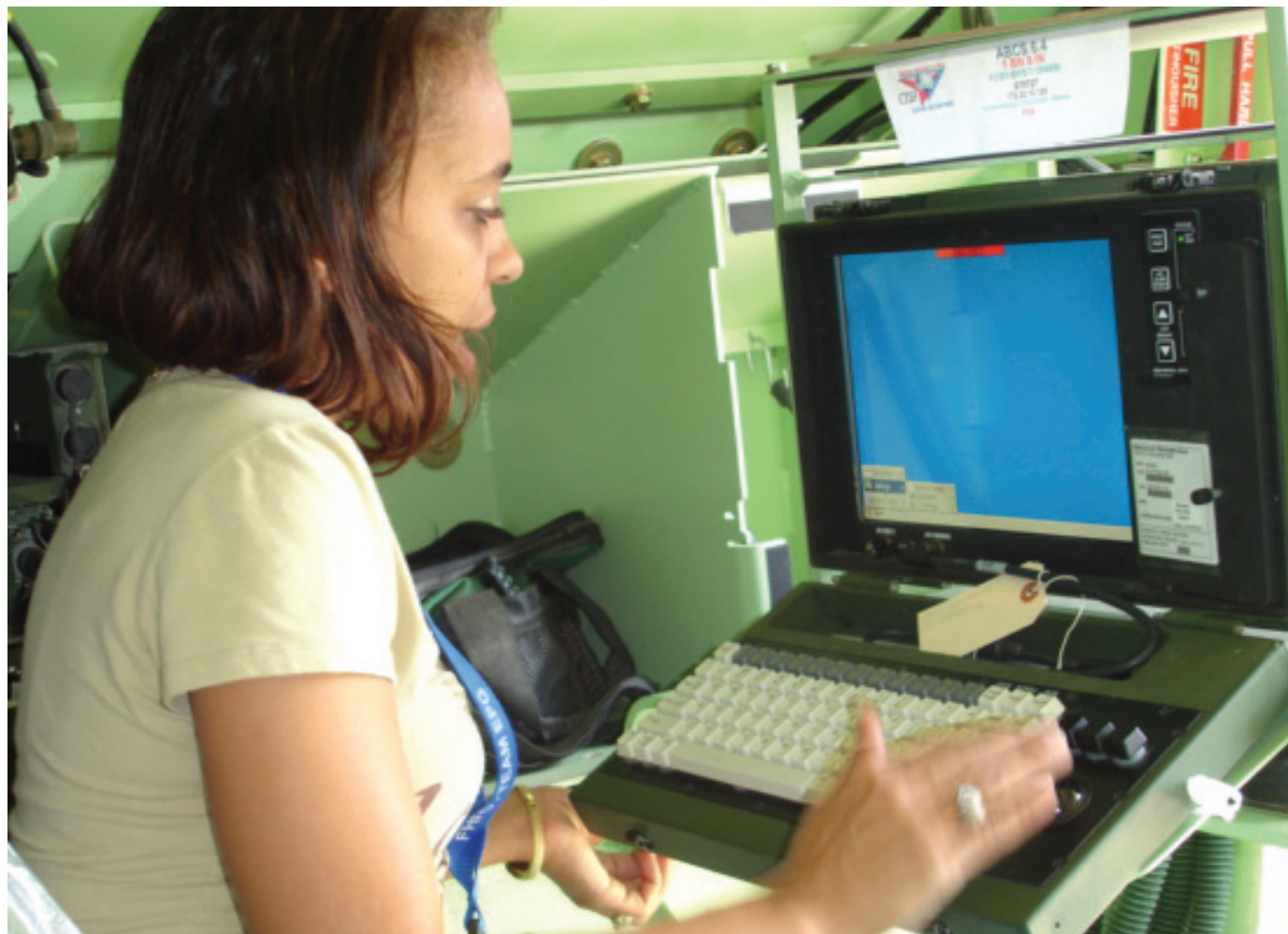


Photo by Dan Plair

Advanced Field Artillery Tactical Data System operator, Tina Gayfield, powers up the Forward Observer System to support certification testing on a Bradley Fire Support Team Vehicle at the CTSF, July 9.

and dedicated personnel, using qualified synergistic processes in order to support the Department of Defense's net-enabled strategic vision."

Drake says the mission is accomplished by, "executing configuration management, systems engineering support and certification testing for Army and Joint C4I (command, control, communications, computers and information) providers."

As the Army continues to develop new net-centric capabilities, the CTSF stands ready to integrate and test C4I products for interoperability. It is the CTSF vision to become a customer-valued organization ensuring the best net-centric C4I capabilities are available to U.S. Army, Joint, and coalition Warfighters, Drake said.

Army interoperability certification testing is a part of developmental testing occurring prior to a Milestone C (production) decision. It gives the Army staff, the assistant secretary of the Army for acquisition, logistics and technology and the Warfighter the confidence that fielded equipment is interoperable and integrated with other systems on the tactical network.

The AIC testing conducted at the CTSF places a system into rigorous testing in a holistic tactical environment to ensure the ability of the system to interoperate with other networked systems. Certification testing is done on behalf of the Army Chief Information Officer (CIO/G-6) to meet Title 40 responsibilities mandating that no system, application or hardware will be used on the Army's tactical network until it has been tested and certified by the CIO/G-6.

To accomplish its mission, the CTSF operates three main departments under its Technical Division to provide system integration and interoperability. The three are Configuration Management (CM), Systems Engineering and Integration (SE&I), and Test. The departments conduct AIC testing synergistically to provide the warfighting community the best-tested tactical hardware and software possible.

The CM Department's staff not only ensures the configuration management for the AIC test floor, but also ensures configuration control of the Army's fielded software baseline.



Photo by Dan Plair

A Bradley Fire Support Team Vehicle (left) and a Bradley Fighting Vehicle at the CTSF Platform Test Pad, July 9.

Each year, the CM shop produces more than 250,000 CDs and DVDs containing approved baseline software to ensure only approved software is used by Soldiers in the field.

CM also maintains a geospatial map library consisting of digital maps used by Army tactical computer systems, ABCS data products and approved baseline software, thus ensuring every map displayed in these tactical systems is the most accurate available.

The CTSF SE&I Department provides direct technical support to test and certification activities, as well as to software developers in their integration efforts. Not only do department engineers verify that new software and data products are compliant, but they also provide network engineering support to Army training events and unit deployments.

Additionally, SE&I provides support to engineering assessments of new and developing C4I products. The assessments are conducted within the CTSF's realistic tactical architectures, allowing developers to test engineering releases of products in non-attribution environments.

The SE&I Information Assurance (IA) branch works with all sections to provide an IA assessment during formal AIC baseline tests, and Information Assurance and Vulnerability Assessment (IAVA) patch testing to update fielded software.

The CTSF Test Department is organized to provide Army and Joint AIC testing. Staffed by test officers, operators, operations research analysts and technical writers, the department provides the Army with the expertise and experience necessary to conduct the most complex interoperability software testing available within the DoD today.

Interoperability requirements used for AIC testing come from the Army Training and Doctrine Command (TRADOC) capabilities managers (TCMs), PEOs and formal requirements documents. From these requirements, program managers and TCMs develop mission threads that describe the flow of information through a multi-echelon architecture.

The department uses the mission threads to create test cases embracing an end-to-end approach to look at the cause and effect of information flow through a system in a networked environment. As part of the overall test process, the CTSF has implemented a rigorous test-fix-test process executed prior to entering into a formal test. The process provides the program manager and the test officers the time to prove the software's interoperability as well as the mission threads before entering formal AIC testing.

The methodical, measured approach to testing maintains configuration control, yet allows software fixes and additional software drops to facilitate development of interoperable functional code in a shortened timeframe.

As the Army continues to conduct more of its operations in a Joint environment, the CTSF will provide testing to meet the Joint Staff's mandate for Joint Technical Architecture (JTA) compliance. Many of the mission threads used today already either start or end in the Joint arena.

To ensure complementary testing that is not redundant, the CTSF has a formal Memorandum of Understanding (MOU) with the Joint Interoperability Test Command (JITC) to allow the



Photo by Dan Plair

(ABOVE) Air and Missile Defense Workstation operator, Gabriel Rodriguez (standing) and Distributed Common Ground Station-Army (DCGS-A) operator, Brenda Buisch, execute mission threads in preparation for a DCGS-A Test-Fix-Test event that took place at the CTSF 9-12 July.



Photo by Dan Plair

sharing of data and test resources between the two organizations. It allows Army systems to meet JTA compliance without duplicating effort. As part of the MOU, the CTSF also recently added JITC liaisons to better integrate its communities.

The investment the Army has made in the CTSF to ensure interoperability for warfighters has become a shining success and a beacon for the DoD in its attempt to develop interoperability across all services and warfighting domains. While much work remains to be done to achieve the DoD vision, the Army's CTSF stands ready to be an integral part of the plan to accomplish this goal.

With its vast experience and dedicated workforce, the CTSF is meeting AIC integration challenges and has the resources to ensure Army interoperability in a Joint environment.

As the lifeblood of the Army's only facility

Field support engineer and pit boss for the System-of-System Integration Test, Phil Thurston, conducts risk reduction testing on Software Block 2 systems at the System-of-System Risk Reduction Lab at the CTSF July 8.

for testing theater level system of systems products in a net-centric environment, the employees of the CTSF provide unparalleled, uncompromising, consistent and responsive support to the Warfighter.

Maj. Shawn Murray served, until recently, as deputy technical director of the CTSF. He holds a Bachelor of Specialized Studies in educational military history from Ohio University. His military education includes the Infantry Officer Basic Course, Armor Officer Advanced Course, and the Army Acquisition Basic Course. He is Level III certified in test and evaluation. He is also a member of the Army Acquisition Corps.

CMMI Level 5: software quality pursuit

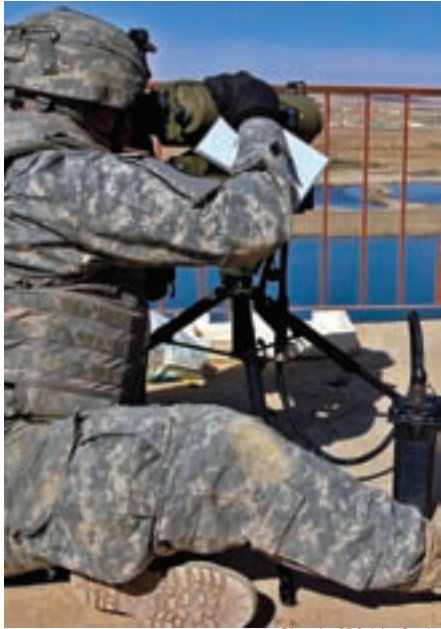


Photo by SPC John Crosby

SPC Thomas Fick, a forward observer in Howitzer Battery, 3rd Squadron, 3rd Armored Cavalry Regiment from Fort Hood, Texas, uses a Lightweight Laser Designator Range Finder to search for targets to call in artillery strikes with precision.

By Charles Cantrell

For the Warfighter in theater, superior software quality translates into greater coordination of armed aircraft and target data, and a more effective use of lethal and non-lethal firepower against selected targets. The results are improved offensive maneuverability and overwhelming firepower on the battlefield.

Fire support software plays a vital role in enabling Army and Joint forces to advance battlefield performance to new levels and more readily take advantage of rapidly evolving opportunities. Additionally, advanced software capabilities provide direct and critical support for command and control activities, as well as all aspects of tactical and technical fire control. Disciplined software development practices are at the core of deploying fast and precise target acquisition processes.

In 2003 the Software Engineering Center (SEC) Fires Software Engineering Division (FSED) took the lead role for the Army and the Department of Defense (DoD) by becoming the first DoD organization to achieve the Capability Maturity Model Integration (CMMI) Level 5 rating. The rating system is administered by the Carnegie Mellon Software Engineering Institute (SEI). The SEI is a federally funded research and development center that collaborates with defense and government organizations as well

as with industry and academic partners to drive continuous process improvements in software development.

The prestigious Level 5 rating was conferred upon SEC FSED after a rigorous evaluation process that ensured the organization had thoroughly implemented a culture of continuous improvement. "The end result for FSED is greater predictability in software development project schedules, a staff that embraces and strives for innovation, and the production of software code that attains the highest levels of quality," said Linda J. Malone, Branch Chief, Communications-Electronics Research, Development and Engineering Center (CERDEC) Software Engineering Directorate (SED).

Among the software systems supported by SEC FSED are the Firefinder Electronic Upgrade AN/TPQ-36 Radar, Firefinder AN/TPQ-37 (Q-37) Radar, Meteorological Measuring Set (MMS) and the Forward Observer System (FOS).

CMMI Level 5 Requires an Unrelenting Commitment to Quality

A commitment to delivering zero-defect computer code reflects only one aspect of attaining a CMMI Level 5 rating. For example, the team not only has to merely fix software

See "Level 5," Page 79



New Army logistics and finance enterprise integration phase begins

By Jill Finnie
EIS Correspondent

While the Army's current landscape of logistics and finance systems includes many separate entities, PEO EIS has a plan and is carrying through with efforts to integrate them. Under the direction of the Deputy Undersecretary of the Army, PEO EIS chartered an analysis team in late 2007 to rethink integration plans for four of its logistics and finance programs.

From November 2007 to January 2008, the team evaluated approaches and came up with a solution that is being used to manage the Army's business processes going forward.

The team evaluated the Army's strategy for the logistics and finance systems that together represent a \$4 billion life-cycle investment. The charge was to determine a more efficient and effective technical approach

to achieve functional requirements and improve cross-domain processes among four business systems that perform logistics and finance functions.

This work addressed risks and concerns raised by the Department of Defense Business Transformation Agency and Government Accountability Office reports on the Army's implementation of these systems.

The analysis compared alternative integration strategies that would be best suited to serve the Army given where each program was in its life cycle. This phase of the analysis concluded at the end of January 2008, culminating in an Army decision to change its integration strategy to one of federation, in which separate program offices are maintained, but common processes and functions are combined, or federated.

It is a practical solution that reduces risks to the programs while respecting individual

program schedules. The Army leverages work done by one contractor for the benefit of another.

This new federated approach was approved by external oversight committees and ultimately led to a successful Milestone B review for both the General Fund Enterprise Business Systems (finance) and the Global Combat Support System – Army (tactical logistics).

A successful outcome of the milestone decision review hinged largely on the viability of the integration strategy. In the current implementation phase, the team continues to progress by optimizing business processes and creating an organizational structure that will provide the Army its best chance of success. It is accomplishing this by implementing its largest information technology business investments to best serve the Army's warfighting and force generation activities



The new brigade-focused logistics cell

By Mike Carter

In response to a growing need for a logistically focused operational element responsive to the Warfighter, the Logistics Operations Cell was formed and activated in January 2007. Resident

in the Logistics and Readiness Center under the direction of the Associate Director for Operations, the LOC is the Communications Electronics Life Cycle Management Command's (CECOM LCMC) single focal point for Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) information collection and dissemination, and the "Drive Train" for synchronized planning, resourcing, and execution for continuous operations throughout the Army Force Generation (ARFORGEN) cycle. Additionally, the LOC executes ARFORGEN reset synchronization conferences; coordinating program executive offices, other Army Materiel Command commodity commands. Army field support battalions and units by codifying orders, resources, readiness assessments, fieldings and training calendars into an executable plan.

Initially comprised of a small contingent of 20 personnel divided into two branches, it has methodically evolved into three branches and over 60 personnel. Today, the LOC consists of the ARFORGEN Branch, Unit Equipping (UE) and Leave Behind Equipment (LBE) Branch, and an Operations Analysis Branch, establishing a 24/7 logistics hotline, as well as a current operations and future plans capability, unique to the LRC. Additionally, there is an Integration Lead responsible for all systems integration issues in the LRC, and two Liaison Officers (LNO) assigned to the Army Sustainment Command (ASC), Rock Island, Illinois, that serve as the conduit between the LOC and ASC to develop and execute C4ISR sustainment, maintenance and LBE strategies. Eventually these elements will come together to form another branch called the Logistics Plans Branch, which will manage an expanded Integration Team (a new and expanding concept to build the digital communications capability for as many as 24 Brigade Combat Teams), all LNOs, and a Strategic Plans Team. The second branch, LOC Forward, is essentially the LRC's Advanced Party, and has the mission to set the conditions for a

seamless transition to Aberdeen Proving Ground.

Core to the LOC success is its dynamic leadership and conspicuous ability to create consensus, ensuring the four associate directors and seven directorates under the LRC, as well as its sister CECOM elements, have a single focal point

course of the year, the LOC has codified processes and procedures that simply did not exist until now. Furthermore, the LOC is the LRC's focus for readiness activities, specifically engaging in comprehensive processes and supporting maintenance & sustainment strategies for all domains within CECOM (PEO communities, software and acquisition).

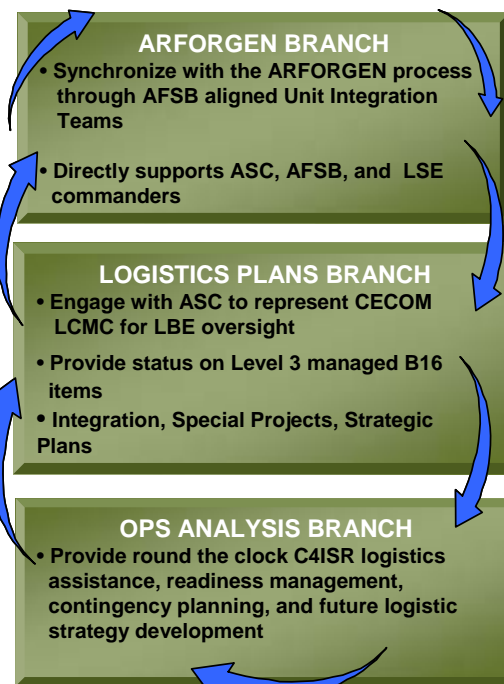
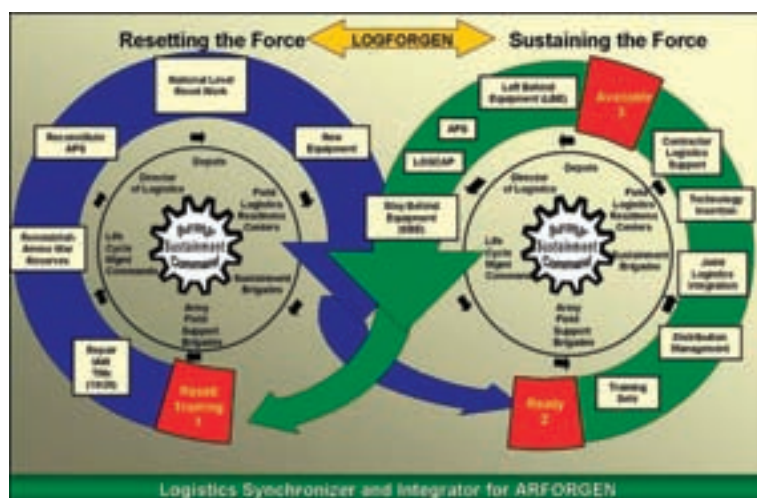
On point for the CECOM LCMC, the LOC has accomplished a myriad of successes, from comprehensive support to the Warfighter, to improving C4ISR teaming across the LCMC, AMC, Department of the Army and the Department of Defense. Additionally, the LOC orchestrated numerous recurring and ad-hoc briefings and video teleconferences, authored several operations orders and standard operating procedures, documented and refined integrated action

group (IAG) and sub-IAG processes, chronologically outlined the entire ARFORGEN Cycle, completed 14 LBE missions costing an estimated \$3 million, formalized associated funding processes, managed ten field reset missions costing over \$12 million, populated the AMC Line Item Number (LIN) database with over 900 LINs in cooperation with weapon system directorates, and orchestrated four ARFORGEN conferences. These accomplishments over the past year further illustrate the LRC's commitment to improving efficiency and effectiveness throughout CECOM while meeting the needs of combatant commanders.

An element to be reckoned with, the LOC has stood the tow, wading through uncharted, undocumented territory. No longer a mere vision, it is a viable element that demonstrates its value and relevance every day. On point for the LRC, the Logistics Operations Cell is a dynamic organization that continues to mature and grow as business processes are refined and missions expand.

ABOUT THE AUTHOR

Charles W. "Mike" Carter is the Associate Director for Operations, Logistics Readiness Center, Communications Electronics Life Cycle Management Command. He holds a Certificate of Maintenance Management, Society of Professional Logistics Engineers, from the Army Logistics Management College, Fort Lee, Virginia and a graduate of the Sustained Management Base Leadership Course, Army Management Staff College, Fort Belvoir, Virginia.



time sensitive data and information required for CECOM LCMC senior leaders to make relevant and knowledgeable decisions to benefit the Army's combat formations.

The Logistics Operations Cell has unequivocally provided the LRC's C4ISR focus on supporting the Warfighter's day to day operations. Managing over 1,000 separate actions over the

U.S. ARMY

Information Systems Engineering Command

MISSION: *The U.S. Army ISEC provides systems engineering, installation, integration, implementation and evaluation support for communications and information technology systems worldwide, providing capabilities to Army organizations, combatant commanders, DOD agencies, and federal agencies in support of the warfighter.*

The USAISEC provides system engineering and integration of information systems for the U.S. Army. USAISEC's many missions include the design, development, engineering, installation, integration, sustainment, testing and acceptance of information systems. Furthermore, the command provides matrix support to the Program Executive Officer and Program Manager structure for systems engineering and integration of assigned information systems.

Under the category of Command and Control Engineering, USAISEC provides AMC, Army, DoD, combatant commanders, and federal agencies with worldwide systems engineering, integration and quality assurance, implementation, and test support for assigned C4I systems and facilities. These encompass systems engineering and integration, visual information systems, and

video telecommunications among others.

Information Assurance and Security Engineering is another major responsibility. Here, USAISEC maintains full-service information assurance, security engineering, certification, and accreditation support to the Army. Core competencies focus on systems security engineering as well as network, infrastructure, and organizational security engineering.

In its Enterprise Systems Engineering role, the command engineers, integrates and tests enterprise-wide information, management, and communications systems. Thus, this unit has expertise in enterprise systems management, Defense Message System/Tactical Message System, network-centric warfare and wide area networks.

Army TEAM C4ISR



COLONEL JOHN COX

Colonel John A. Cox, who took command of USAISEC in August, 2007, began his military career by enlisting in the United States Coast Guard Reserve in 1977 where he served on small boat search and rescue teams at Base Galveston, Texas until 1983.

Colonel Cox transferred to the U.S. Army later that year, attending basic training at Fort Dix, New Jersey, and Officer Candidate School at Fort Benning, Georgia, where he was commissioned as a Second Lieutenant in the Signal Corps on June 1, 1984. His initial assignment was Delta Company, 304th Signal Battalion, Camp Carroll, Korea.

Colonel Cox served in various roles in the 142nd Signal Battalion, 2nd Armored Division, Fort Hood, Texas. He was assigned to the VII Corps G6 staff, Kelley Barracks, Germany. He assumed command of Bravo Company, 26th Signal Battalion, 93rd Signal Brigade, and de

LOCATION: *At the foot of the Huachuca Mountains at Fort Huachuca, Ariz.*





Key Leader Profile

played the unit in support of Operations Desert Shield and Desert Storm. Colonel Cox served as a Radio Systems Program Manager assigned to the 704th Military Intelligence Brigade. In 1995, Colonel Cox attended the Spanish Language Course at Presidio of Monterey, California, and was then assigned to the Defense Attaché Office, U.S. Embassy, Caracas, Venezuela. Upon returning to the United States in 1996, Colonel Cox served in various roles until 2001 in the 3rd Signal Brigade, Fort Hood, Texas.

Colonel Cox served as the G6, 32nd Army Air and Missile Defense Command, Fort Bliss, Texas. He then served as the 1112th Signal Battalion Commander and Director, Information Technology Business Center, at Fort Bragg, N.C. Colonel Cox served as the Operations Officer, Global NetOps Center, and as the Deputy Chief of Staff, Joint Task Force-Global Network Operations, in Arlington, Virginia.

Colonel Cox is a graduate of the Signal Corps Basic and Advanced Officer Courses, Combined Arms and Services Staff School, the United States Army Command and General Staff College, the Venezuelan Armed Forces of Cooperation Command and General Staff College, and the United States Army War College. He received his Bachelor of Science degree in Geography from Texas A&M University, a Master of Arts degree in International Relations from Saint Mary's University, San Antonio, Texas, and a Master of Strategic Studies, U.S. Army War College. His awards and decorations include the Bronze Star Medal, Defense Meritorious Service Medal (1OLC), Meritorious Service Medal (3OLC), Army Commendation Medal, Basic Parachutist Badge, and German Parachutist Badge.

He and his wife, Lydia have been married for 17 years and have two children, Katelyn, 13, and Mac 9.



Brenda Oller, Bill Robertson and Mike Reese of the USAISEC-Fort Detrick Engineering Directorate review the information infrastructure design for Army Team C4ISR's future campus at Aberdeen Proving Ground.

The IT 'honest broker'

By Delle C. Lambert
ISEC Correspondent

USAISEC continues to expand its reputation as the Army's premier systems engineer. This includes evaluation of information system components being considered for Army use. USAISEC engineers and technicians scrutinize and test hardware and software components. This evaluation and testing is unbiased.

Albert Rivera, Technical Director, refers to USAISEC as an "honest broker" for the Army. Participating engineers write reports detailing results of their inspections and testing with recommendations for use within the Army.

USAISEC origins can actually be traced back to 1943, with what was then called the Plant Engineering Agency.

Since its beginning in World War II, the command went through several major organizational changes before reaching its present state. One of the most notable changes occurred in 1968, when the command was changed to U.S. Army Communications Engineering and Installation Agency.

The command changed names several times during the 1980's and became USAISEC in 1985.

The Agency and command were always aligned with Army signal commands until 1996 when it became part of the U.S. Army Communi-

cations Electronics Command, a major subordinate command of the Army Materiel Command.

Former COL Mary Beth Shively, who served as the USAISEC commander from Aug. 3, 2001 to July 21, 2003, said, "Every phone call, email and official message transmitted or received on an Army installation travels on a system or network that ISEC designed, engineered, installed or upgraded."

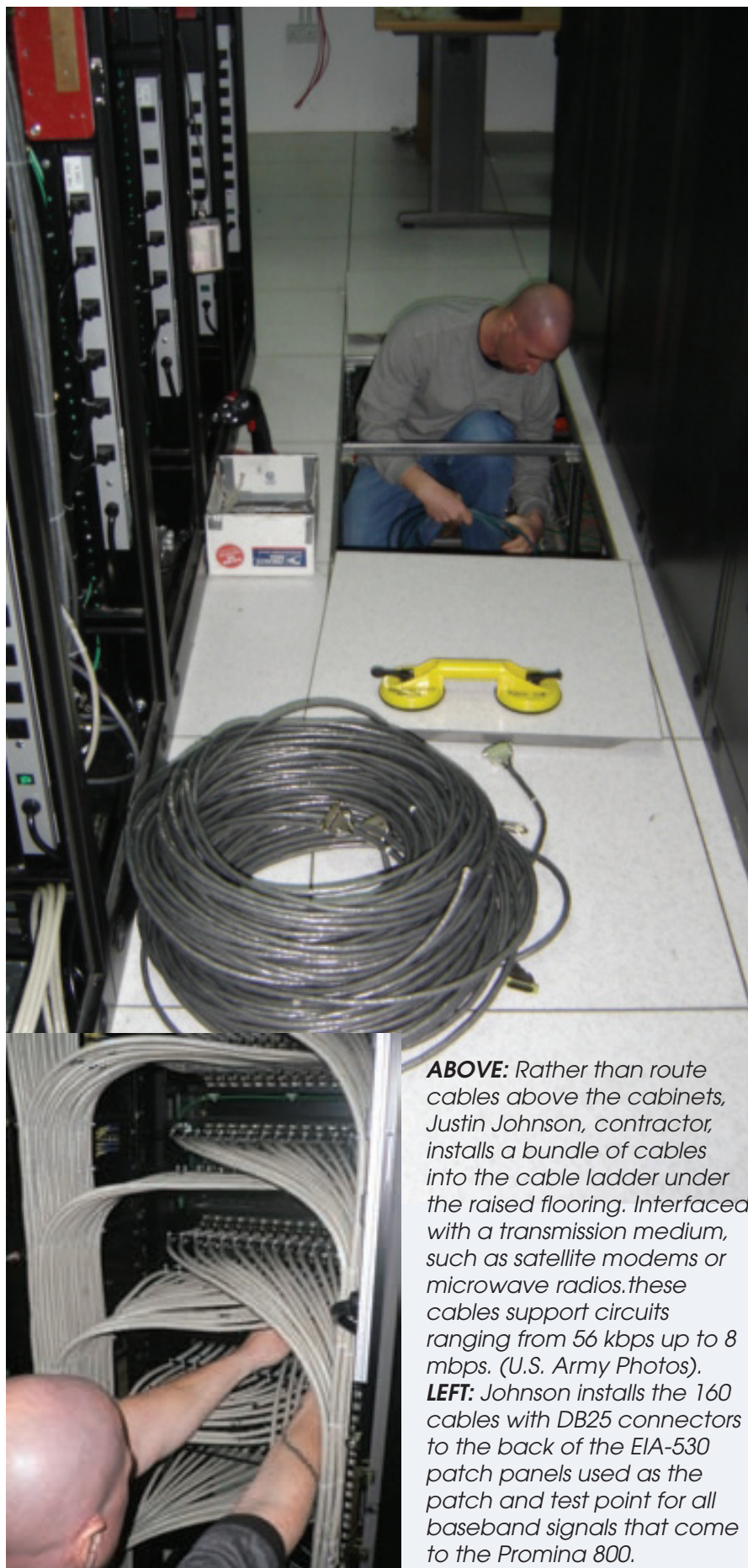
Colonel John Cox, USAISEC commander recently remarked, "The Army transformation has relentlessly moved forward and Army programs were re-evaluated, causing USAISEC to take a look at its internal organization to see how to better serve customers and to look at new business opportunities."

"USAISEC has undergone some reorganization over the past year and presently consists of eight directorates and one group," said Albert Rivera, technical director.

These organizations include the Mission Support Directorate, Technology Integration Center, Enterprise Systems Engineering Directorate, Information Assurance and Security Engineering Directorate, Transmission Systems Directorate, Fort Detrick Engineering Directorate, Fort Lee Engineering Directorate, National Capitol Region Engineering Directorate, and Technical Support Group.

"ISEC," Continues on Page 65





ABOVE: Rather than route cables above the cabinets, Justin Johnson, contractor, installs a bundle of cables into the cable ladder under the raised flooring. Interfaced with a transmission medium, such as satellite modems or microwave radios, these cables support circuits ranging from 56 kbps up to 8 mbps. (U.S. Army Photos).
LEFT: Johnson installs the 160 cables with DB25 connectors to the back of the EIA-530 patch panels used as the patch and test point for all baseband signals that come to the Promina 800.

Mission Support Directorate (MSD)

MSD provides responsive support when, where, and as required to ensure accomplishment of the USAISEC engineering missions and to be stewards of the taxpayers' dollars. MSD provides the following core competencies:

- ◆ Resource Management
- ◆ Operations and Plans
- ◆ Contract Administration
- ◆ Personnel Management
- ◆ Security/Intelligence
- ◆ Information Management
- ◆ Logistics

Director: Nick Lebano

Technology Integration Center Directorate (TIC)

The TIC is the Army's critical enabling agent for infusing ITs into total IT solutions; they serve as the "honest broker" and verify and validate vendor claims.

The TIC provides the following core competencies:

- ◆ Information Technology Change Agent
- ◆ Unparalleled Comprehensive Product Evaluation Across Multiple Technologies
- ◆ Technology Insertion
- ◆ End-to-End Systems Emulation, Modeling, and Simulation
- ◆ Network Systems Engineering and Evaluation
- ◆ Application Evaluation and Improvement
- ◆ Networthiness and Intra-operability Certification Testing for the Army Sustaining Base

Director: William Citera

Enterprise Systems Engineering Directorate (ESED)

ESED engineers, integrates, and tests enterprise-wide information, management, and communications systems. It provides AMC, Army, DOD, combatant commanders, and federal agencies with worldwide systems engineering, integration and quality assurance, implementation, and test support for assigned C4I systems and facilities. ESED provides the following core competencies:

- ◆ Enterprise-wide solutions
- ◆ Enterprise Systems Management
- ◆ Defense Message System/Tactical Message System
- ◆ Processing and Storage
- ◆ Wide Area Networks
- ◆ Network Centric Warfare
- ◆ Knowledge Management
- ◆ Systems Engineering and Integration
- ◆ Design, Implementation, and Integration of C2 Facilities and Systems
- ◆ Visual Information Systems
- ◆ Video Telecommunications

Director: Troy Roberts

Information Assurance and Security Engineering Directorate (IASSED)

IASSED provides full service information assurance, security engineering, certification, and accreditation support to the Army. IASSED provides the following core competencies:

- ◆ Systems Security Engineering
 - ◆ Network, Infrastructure, and Organizational Security Engineering
 - ◆ Certification and Accreditation
 - ◆ Public Key Infrastructure
 - ◆ Secure Communications
- Director: Ted Hendy

Transmission Systems Directorate (TSD)

TSD enables power projection through terrestrial and space-based communications technologies. TSD provides the following core competencies:

- ◆ Defense Satellite Communications System
 - ◆ Commercial Satellite Communications
 - ◆ Terrestrial Communications and Technical Control
 - ◆ IEW Communications
 - ◆ Grounding, Bonding, Shielding, and Lightning Protection
- Director: Robert Lorentsen

There are three other USAISEC Directorates on the East coast:

Fort Detrick Engineering Directorate (FDED)

FDED provides worldwide systems engineering, integration, implementation, quality assurance, test and acceptance, and technical support for information transport infrastructure and networks in support of enterprise information systems. FDED provides the following core competencies:

- ◆ Installation Infrastructure Engineering and Implementation
 - ◆ Telephone Switching Systems
 - ◆ Local and Wide Area networks
 - ◆ Information Systems for Military Construction, Army
 - ◆ Air Traffic Control Systems
 - ◆ Information Assurance
- Director: Eugene W. Baker

Fort Lee Engineering Directorate (FLED)

FLED enables ITs to achieve logistics readiness and modernization. FLED provides the following core competencies:

- ◆ Systems Engineering
- ◆ Software Development Management
- ◆ Security Engineering



U.S. Army Photo

National Capitol Region Engineering Directorate (NCRED)

NCRED is a combination of the Pentagon and Fort Belvoir Directorates. NCRED engineers and implements a world class secure IT infrastructure for the nation's defense headquarters, command/operations centers, and senior defense decision makers. NCRED provides systems engineering services for the modernization of the sustaining base to achieve Army transformation goals. NCRED provides the following core competencies:

- ◆ Systems Engineering/Integration
 - ◆ Command Centers Engineering
 - ◆ Security Engineering
 - ◆ Tech Controls and telecommunications Centers
 - ◆ Information Systems Networks and Infrastructure Engineering
 - ◆ Testing and Quality Assurance
 - ◆ Specification Development
 - ◆ Interface Definition and Design
 - ◆ Fielding of software Intensive IT Systems
- Director: Pete Paprocki

Contractor, Bill Wall, installs a connector to cables to allow Defense Switch Network voice trunks to route from the voice switch to the Defense Information Systems Agency cloud.

Technical Support Group (TSG)

TSG promotes systems engineering, synchronization, and integration of USAISEC engineering efforts, special projects, and directorate activities through direction, collaboration, facilitation, and information sharing via existing and continuously developed toolsets and systems in order to sustain USAISEC as the "Best value" systems engineering organization for Army, DOD, and other governmental organizations. TSG provides the following core competencies:

- ◆ Synchronization of Efforts
- ◆ Technical Integration
- ◆ Project Knowledge
- ◆ Professional Collaboration
- ◆ Regional Integration Field Offices:

Southwest Asia, Europe and the District of Columbia; Group Lead: Keith Moore



"ISEC" From Page 63

USAISEC has a workforce comprised of 535 government civilians and soldiers and 533 contractors in its engineering teams. Approximately 85 percent of USAISEC's 1,068 personnel are technical workers. These include electrical engineers, computer analysts, computer engineers, and telecommunications specialists.

Many members of USAISEC's workforce are deployed globally to provide direct service

to Warfighters. The command presently has engineers deployed globally in the following locations:

- ◆ Bosnia and Herzegovina
- ◆ Kosovo
- ◆ Bagram, Afghanistan
- ◆ Kabul, Afghanistan
- ◆ Kuwait City, Kuwait
- ◆ Doha, Qatar

"ISEC," Continues Next Page





U.S. Army Photo

ISEC Engineers (Left to Right) Steve Austin, Bill Johnson, and Jay Hizer working on initial setup and testing of the SafeAccess and Infoblox at the Fort Riley, Kansas, Directorate of Information Management. ISEC is performing the systems and security engineering and implementation for the migration of Fort Riley and three more installations as the first to obtain consolidated information technology services from Area Processing Centers (APC). The centers will lead to a more rapid deployment of patches and common application upgrades and will reduce operations and maintenance costs Army-wide. SEC has the role for security oversight of the APC design and implementation, along with performing certification and accreditation of the APC, installation perimeter node and local processing node components.

Colonel John A. Cox, USAISEC commander, describes USAISEC as the Army's Delta Force in systems engineering. In addition to evaluating new systems, the command can mitigate network failures virtually anywhere in the world at any time. "Throughout the year, USAISEC continues to provide leading edge technology to the Warfighter," said Cox. The command has met over 62 quick reaction requirements, many of them associated with the Global War on Terror and requiring command presence in Southwest Asia. There were over 120 employees on the road at any given time during the year. No matter what the conditions were, the command's mission continued to be accomplished, thanks to our steadfast workforce."

Albert Rivera, USAISEC's technical director, emphasizes that USAISEC has four mission areas: strategic information systems between post, camp, or station delivery points; corporate level enterprise-wide automation using commercial off-the-shelf and non-developmental items; information transport infrastructure within posts or station delivery points; and technology integration for information systems with commercial technology evaluation. This translates to about 75 customers, 80 work plans and almost 1,500 deliverables.

Internally, the command consolidated a few missions and personnel in 2007. The engineering process was re-evaluated, and new initiatives were started to make the engineering process more efficient. Among these, is the newly estab-

lished Technical Support Group (TSG) under the command's technical director. This action provided the commander with a full-time individual for technical support.

In-house expertise plays an important role in USAISEC operations. After a system verification requirement from the customer is received, the command assigns a project lead who develops a design plan based on several documents.

"Every phone call, email and official message transmitted or received on an Army installation travels on a system or network that ISEC designed, engineered, installed or upgraded."

... COL Mary Beth Shively, former USAISEC Commander

The design plan is appraised by a team of 14 Critical Skill Experts and 21 Subject Matter Experts.

USAISEC continues to support Army Transformation in the various IT disciplines by not only focusing on the integration of IT as a combat multiplier, but continuing to deliver capabilities that meet the requirements set by the Warfighters, at cost, quickly and on time.

The command is proud of its quick-reaction performance in response to numerous support actions during this past year. This momentum

also has enhanced and sustained our support to the Global War on Terrorism. The command continues to be challenged to provide integrated capabilities in the strategic environment in a "Net-Centric Enterprise Architecture" world: distributing, installing and engineering components and services to some 113 projects across 33 countries worldwide. To date, this Combined Enterprise Regional Information Exchange System (CENTRIXS) installation and maintenance effort continues to provide coalition interoperability in support of military operations.

All this was performed with one goal in mind: to achieve standardization throughout the commands and commanders operating in the field, while delivering and ensuring a robust and secure network. The U.S. Army chief information officer-G-6 challenged every command to exploit the power of Internet Protocol, to extend the network to the edge and push increased bandwidth to the lowest levels in our Army.

The projects USAISEC works on provide that seamless part of the network that is transparent to the warfighter, thus allowing engineering principles to be put in place to meet the direction and guidance provided by senior Army leadership. The command continued to make great strides in assisting tactical communication systems and Soldiers in Southwest Asia: with fixed communications facilities focused on ensuring continuity of operations with little to no loss of services in support of Warfighters

Commo set to meet future demand

By Josh Davidson
C3T Correspondent

As the Army's technological capabilities grow, its communications pipes will expand, too -- every increment of the way.

"We have a propensity to fill whatever we happen to put out there," said Col. William C. Hoppe, project manager for the Army's Warfighter Information Network-Tactical.

Known as WIN-T Increment One (formerly the Joint Network Node-Network), the communications pipe used by today's Soldier is filled with information that includes command and control applications and sensor-based battlefield video.

Bandwidth amounts will expand in WIN-T's three remaining increments to support that data, as applications will always continue to fill the Army's network.

Future applications should be created with this in mind, Hoppe said. "Part of the challenge is using that bandwidth smartly, because it's not like a dial that you can just turn and crank up the amount of bandwidth that you have," he said. "At some point it is finite. The spectrum is finite, so we have to find ways to use it smarter. Not just make the pipes bigger but make our applications smarter and make our use of that finite spectrum more efficient."

The remaining three WIN-T increments will allow the application's data to be pushed to increasingly lower echelons, Hoppe said.



Photo by Russ Meserol

A Warfighter Information Network-Tactical (WIN-T) Increment 2 test vehicle in a movement during the WIN-T technology demonstration at Naval Air Engineering Station, Lakehurst, N.J., Nov. 7.

The immediate difference between WIN-T Increment One and WIN-T's subsequent increments is WIN-T Increment One provides communications capabilities at the quick halt, where you basically have to stop to communicate.

WIN-T Increments Two and Three will bring the initial and full on-the-move capability, where stopping is not required for communications, to the entire Army.

"Increment Four is a little more specialized," Hoppe said. "That's where we're taking advantage of the secure anti-jam, low probability detection satellite communications off of things like TSAT (the Transformation Satellite Communications system) into our radio systems."

The ability to maintain communications links

beyond the Warfighter's vision range will also play a role. "It has given flexibility to the commanders," he said. "They like being able to communicate beyond one's line-of-sight. That's something that (WIN-T Increment One) currently provides and that the air tier will eventually provide when we get to Increment Three."

WIN-T provides the communications pipe that allows commanders to use battle command or situational awareness-related systems that allow them to make quicker and more effective decisions.

PM WIN-T is assigned to the Army's Program Executive Office for Command, Control and Communications Tactical, which is headquartered at Fort Monmouth, N.J.

FUTURE OPERATIONS

Battlefield biometrics developing

By Jill Finnie
EIS Correspondent

The need for quick-response biometric systems on the battlefield has never been greater, and the Project Manager Department of Defense Biometrics (PM DoD Biometrics) is rapidly delivering systems to meet those needs and even anticipating future requirements. Based in Fort Belvoir, Virginia and part of the PEO EIS, PM DoD Biometrics has program staff in West Virginia and Arizona, a forward organization in Iraq and a biometric cell in Afghanistan to help support Warfighters in deploying, maintaining and operating these systems.

Biometric data includes measurable physical or behavioral characteristics used to uniquely identify an individual, such as handwritten signatures, iris scans, fingerprints, facial recognition, voice recognition, thermal signatures and DNA samples. To strengthen capabilities and promote interoperability across systems, the DoD selected PM DoD Biometrics to serve as the focal point



U.S. Army Photo

A Soldier collects biometric data at a checkpoint.

for developing military and government biometric solutions.

PM DoD Biometrics currently supports a range of collection and processing systems, including the Biometrics Automated Toolset, a multi-modal system that supports tactical, operational and strategic military operations. Another is the

Biometric Identification System for Access, which collects information and produces a smart card that helps to manage access to U.S.-controlled facilities in Iraq.

Battlefield experience provided input for a major system redesign of the prototype Automated Biometric Information System (ABIS), the authoritative DoD database for biometric data collected from detainees, enemy combatants and persons of interest.

"We're continuing to respond to current requirements, as well as work with the Warfighter community on emerging requirements to help guide our actions moving forward," said PM DoD Biometrics COL Ted Jennings.

In the coming year, PM DoD Biometrics will work to enhance its Next Generation ABIS and will implement improvements to current tactical collection devices. The Army is investigating new collection methods for voice and facial recognition, palm prints and technologies for handwriting, gait (walking characteristics), and even vein pattern recognition for the program.

SPOTLIGHT U.S. ARMY RESEARCH DEVELOPMENT & ENGINEERING COMMAND

Communications-Electronics Research, Development and Engineering Center

MISSION: CERDEC develops and integrates C4ISR technologies that enable information dominance and decisive lethality for the networked Warfighter.

As the Army's information technologies and integrated systems center, CERDEC leverages the technical capability of its world-renowned scientists and engineers, and strategic partnerships with other experts in industry and academia to find solutions that span the entire domain of command, control, communications, computers, intelligence, surveillance and reconnaissance.

By providing technical solutions that enhance visualization and information superiority for the commander; by providing secure seamless tactical communications for the digital battlefield; and by integrating advanced sensor technology to include the detection and neutralization of mines, deception techniques and state-of-the-art night vision capabilities, we enable the Warfighter to sense the battle space; to deny and disrupt enemy efforts; and to remain "connected" to

achieve and sustain information superiority, strike with decisive lethality and survive.

Our many government-unique and world-unique facilities support a broad range of technical areas that leverage expertise in the radio/digital/electronic realms of information technology and systems engineering including command and control, communications, computers, electronic warfare, and sensors.

Our critical core competencies position CERDEC to respond to the Army's short-term and long-term transformational goals. This, coupled with our physical structure, allows us to plan, model, develop, integrate, fabricate, test and deploy in a fashion which ensures the Soldiers of today and tomorrow will always have the most effective technology at their fingertips.



LOCATION: Headquartered at Fort Monmouth, with facilities at nearby Fort Dix, N.J. and Fort Belvoir, Va.

Army TEAM C4ISR



GARY BLOHM
SENIOR
EXECUTIVE SERVICE

Pprior to his current assignment, Mr. Blohm was the Deputy Program Manager for Network and Complementary Programs, Future Combat Systems (Brigade Combat Team). As the Deputy Program Manager Future Combat Systems, he was responsible for integration of all Network elements of FCS to include the Standards, Communications (Transport) Systems, Enterprise Services, development of Future Force Battle Command applications, and Intelligence, Surveillance and Reconnaissance (ISR) Systems.

Mr. Blohm served as the Army's (CIO/G6) as the Army lead for a Joint Tactical Network for Ground Forces Study, co-led by Office of the Secretary of Defense, Director of Program Analysis and Evaluation (OSD PA&E). He was responsible for leading a team consisting of Army Staff, Program Executive Offices, Marine Corp, Joint Staff and OSD elements to execute the study and develop a plan to bring additional network



ing capability to ground forces more rapidly.

In September of 2003, Mr. Blohm became the Director of the CERDEC Space & Terrestrial Communications Directorate. He was the focal point for providing the technology, system and network integration and engineering design to implement tactical communications systems for America's Warfighters. He was responsible for the research, development, testing, and engineering support for initial acquisition, system integration, first fielding and support of space and terrestrial communications and information security networks and systems for use by the Army, Joint Services and other Government agencies.

Mr. Blohm was the Principal Engineer for Department of Army Satellite Communications Systems Engineering. He was the Army's representative for numerous satellite architecture developments was instrumental in the development of the SHF and Tri-Band Satellite Communications Military Standards. He also served as the United States Representative to the NATO Working Group on Satellite Communications.

Mr. Blohm was the ATD Manager for both the Digital Battlefield Communications Advanced Technology Demonstration (DBC ATD) and the Multifunctional On-the-move Secure Adaptive Integrated Communications (MOSAIC ATD). These programs focused on developing mobile communications technologies for the Warfighter Information Network - Tactical and Joint Tactical Radio System programs.

Mr. Blohm entered Civil Service in 1985 with the United States Army Satellite Communications Agency (SATCOMA) where during his tenure he served as Project Engineer and Fielding Technical Team Chief on the Ground Mobile Forces Tactical Satellite Communication Terminal program.

Mr. Blohm earned his Bachelor of Electrical Engineering degree from Stevens Institute of Technology and also received a Master of Business Administration from Fairleigh



U.S. Army Photo

Members of CERDEC's Command and Control of Robotic Entities (C2ORE) program test a surrogate unmanned scout ground vehicle. C2ORE unmanned assets provide communication and reconnaissance collaboration capabilities.

The C4ISR cutting edge technology provider

"We leverage the expertise of our personnel to integrate complex systems; develop, evaluate, and prescribe power and energy solutions, and engineer the Army's battlefield network. Our expertise in sensors, intelligence, surveillance and reconnaissance enables us to translate breakthroughs in science into life saving capabilities for our forces." - Gary Blohm

By Edric Thompson, Erica Fineman Bertoli and Raina Williams
CERDEC Public Affairs

See... Hear... Deny/Disrupt... Communicate... Out Think... Survive. These functions represent capabilities that allow our Soldiers to anticipate, out-maneuver and out-perform the enemy. These seven words are the core of the Communications-Electronics Research, Development and Engineering Center's (CERDEC) mission.

As an element of the Army's Research, Development and Engineering Command, CERDEC develops and integrates Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) technologies that provide the Warfighter enhanced situational awareness, defense and deterrence against enemy efforts. Additionally, CERDEC technologies provide for broad communication capabilities across military facets.

"CERDEC science and technology (S&T) programs literally touch every Army platform and many DoD platforms in our nation's defense," said CERDEC Director Gary W. Blohm.

CERDEC scientists and engineers support the Warfighter by improving existing systems,

anticipating needed technology, and collaborating with the various C4ISR centers and the Soldiers in the field to meet new battlefield demands.

Divided into six directorates, Command and Control Directorate (C2D), Space and Terrestrial Communications Directorate (STCD), Night Vision & Electronic Sensors Directorate (NVESD), Intelligence & Information Warfare Directorate (I2WD), Software Engineering Directorate (SED) and Product Realization Directorate (PRD) as well as Product Manager C4ISR On-The-Move, (PM C4ISR OTM), CERDEC works as an integrated whole to support the Warfighter through cutting-edge, technological advancement.

The CERDEC's partners include PEO Soldier, PEO C3T, PEO IEW&S, the Joint IED Defeat Organization, the U.S. Army Rapid Equipping Force, PEO Ammunition, the Marine Corps and many other organizations.

"The complex and fast-paced mission of communication and information technology necessitates a collaborated approach across our community," said Blohm. "We are most effective when we are able to synchronize S&T developments with Army Program of Record objectives."

"CERDEC," *Continues Next Page* »

See ...

"The ability to see in all conditions, 'in day, night and adverse weather' allows Warfighters situational awareness and enhances their ability to interact with the battle environment." - **Dr. Don Reago, principal deputy, NVESD**

Situational awareness allows the Warfighter the ability to assess the environment and is therefore paramount to success. The Soldier must see his or her surroundings, the enemy, the ultimate target and any potential threats.

Enhancing and optimizing this capability is ingrained in the missions of many of the CERDEC directorates, including, of course, the Night Vision, Electronic Sensors Directorate (NVESD).

"The Army is using its advanced night vision sensors in Iraq and Afghanistan 24 hours-a-day, seven days a week," said COL Curtis McCoy, who was deployed to both Afghanistan and Iraq.

"The capabilities of these critical combat tactical sensors are vital in the asymmetrical fight against terrorism."

The directorate has developed a number of infrared imagers over several decades and continues to provide leadership, which gives the U.S. Warfighter a significant edge over potential adversaries. Infrared, which provides observation under most day/night atmospheric conditions, is the heart of thermal imaging in both the Mid-Wave Infrared Band and Long-Wave Infrared Band.

"The first imager systems were direct view tubes in the near infrared which used available

light from the night sky," said Dr. John Pollard, Senior Scientist, NVESD. "Third generation image tubes are being fielded throughout the U.S. military today. They are providing capability for individual Soldier night-time mobility and surveillance, pilotage and driving."

While CERDEC's directorates work to provide cutting-edge products to bolster the Warfighter's ability to see, this is only one aspect of situational awareness.

Through close collaboration with the rest of the S&T community, CERDEC provides a full spectrum of capabilities to enhance the senses.

See ... Hear ...

"All major upcoming weapon systems are being network enabled. We have great responsibility in making sure the network is responsive to the Warfighter's need and intent, that communications are there when they are needed. We enable the secure communication chain from the sensors to the shooters. If a Warfighter presses a button to call for information or to engage a target, we ensure that the network doesn't fail them." - **David Jimenez, director (acting), STCD.**

Acquiring, developing and integrating seamless, secure tactical communications for the new battlefield is the Space and Terrestrial Communications Directorate's sole mission; it is through this work that our Warfighters can intercept and monitor enemy communication in a hostile environment while being confident that frontline communications are reliable and secure.

This is accomplished through research and engineering functions related to land, avionics and space-dependent communications. These technologies offer full electronic countermeasures and information security, meeting both near and long-term needs.

"Our efforts in the coming years will ease

the burden to our Soldiers," said Jimenez. "Operating, planning, and executing the daily management of our networks is an ever-growing task for our commanders. We look to apply cognitive technologies to simplify the tasks. Cognition will automate many things that currently require Soldier intervention and it will help us to use the network to fight quicker. I have very high hopes for the prospects cognition will bring: the network will work efficiently, persistently and with a lot less user care and feeding."

Once situational awareness has been achieved through sight and sound, the application of that knowledge becomes the next step in the CERDEC mission.



U.S. Army Photo

Members of STCD's Joint SATCOM Engineering Center test the communication capabilities of the Single Channel, Anti-Jam, Man-Portable terminal.

See ... Hear ... Deny ... Disrupt

"From a technology standpoint, we want to provide our troops the tools and technologies that will deny enemies any advantage. If we go into an area, our goal is to deny the enemy the ability to act and to severely disrupt their decision making progress. We want to name the time, the place and the action. By denying the enemy the ability to act, we retain control of the situation." - **Anthony Lisuzzo, Director, I2WD**

In the current mission environment, the denial of advantage is often related to our ability to control information and disrupt the enemy's capabilities. This is why several CERDEC electronic warfare technologies are designed to be mobile and flexible.

The Intelligence and Information Warfare Directorate empowers Warfighters to deny and disrupt the enemy by developing programs such as Sense through the Wall (STTW), thus minimizing the possibility of ambush. STTW allows forces operating in urban environments to detect and locate enemies hidden behind walls, doors and other obstructions.

Awareness of the battle environment is the best planning tool available to military leaders.

CERDEC is among the leading organizations in providing this type of technology to the Warfighter. In addition to situational and environmental considerations, the ability to be forewarned of the enemies' intentions works towards disrupting that enemies' battle plan and denying them success.

I2WD's System for TRlaging Key Evidence (STRIKE) Program provides just such critical and timely intelligence to the Warfighter.

STRIKE, which was initiated as part of the Small Business Innovation Research (SBIR) program, allows Soldiers to gather information by assessing media from cell phones.

By providing instant access to this information, rather than sending it to a lab where it would take time to process, Warfighters can understand

their environment more quickly, see potential opportunities and react properly to threats.

"As engineers, it is about asking ourselves what technologies are available and what advantages we can provide to the Warfighter to maximize survivability," said Lisuzzo. "This may be increased ability to detect the enemy in the form of sensors or advanced radar systems, or it may be armor to keep them safe in the field, or new systems to counter the IED threat. As engineers, it's ultimately about looking at the total picture to bring each Soldier home."

Once opportunities to deny and disrupt the enemy have been identified, it is through the collaboration with the CERDEC team that these lessons learned can be widely assimilated.



U.S. Army Photo

SGT Joshua G. Deveraux of the Natick Soldier Center's Future Force Warrior program launches a RAVEN unmanned aerial vehicle during one of Project Manager Team C4ISR On-The-Move's integrated systems of systems technology demonstrations.

See ... Hear ... Deny ... Disrupt ... Communicate

"Communication is critical to understanding how our systems are performing, what some of the gaps are so that we can resolve them and how to keep the systems current as the mission changes. You can't always predict the environment, and what's more, the environment is always changing. Our systems have to be adaptable. It is one of our top priorities." - **Mike Skurla, Director (Acting), SED**

Current communication relies heavily upon technology. While this provides convenience, it also presents dangers. One method of mitigating these dangers is through the Cyber-Protect programs supported by the Software Engineering Directorate.

"Cyber-Protect is an area that we support where we have security engineering information assurance professionals looking at tactical systems and communication networks for vulnerabilities, and seeking to strengthen them from ongoing cyber attacks, whether they be from the outside or from the inside," said Ken Barczak, Deputy Director (Acting) of SED. "You want to strengthen your systems' protections as it con-

nects to the internet. The more systems that you touch and you seek to touch, the more you have to protect yourself." In line with the collaborative nature of CERDEC, and in support of CECOM LCMC SEC, SED supports many of the systems and products developed across Team C4ISR through ongoing communication with all organizational partners.

"SED supports the software behind C4ISR's multi-intelligence technology such as imagery intelligence, electronic intelligence, communication intelligence as well as jammers that seek to disrupt the enemy's communication capabilities," said Barczak.

They also modify software in the field, keep-

ing it operational and secure amid changing doctrine, threat, and interoperability requirements.

"We do have individuals within SED who receive calls directly from the field asking questions. We provide that support through training exercises prior to deployment, new equipment training and delta training on fielded systems," said Skurla. "We also have directorate representatives out in the field who volunteer to deploy so that they can provide onsite support to the Warfighter."

It is this inherent drive for civilian and military personnel to collaborate as a unit that provides the American force with its strength, and allows it to persevere over the enemy.

See ... Hear ... Deny ... Disrupt ... Communicate ... Out-Think

"We develop the capabilities that enable the commander to out-think the enemy. The tools we provide enable him or her to make informed decisions faster and get inside the decision cycle of the enemy. We often talk about command as an art and science. Our research is focused on the science component so that the commander can focus on the art of command." - **Dr. Gerardo Melendez, Director, C2D j**

To out-think our enemy, commanders must strategically analyze the total battle environment.

"Some of the work we do addresses human interface with the computer; we analyze how information is displayed and how to make it easier for someone to process," said Melendez. "We're

looking to totally immerse the commander in a three-dimensional world where he can walk through an area of operation virtually before actually going there."

C2D accomplishes this through the C4ISR Automated Virtual Environment (CAVE) Program.

The CAVE develops advanced visualization environments using immersive (stereoscopic 3D) techniques for current Army Battle Command Systems and Future Combat Systems. This tech

"CERDEC," Continues Next Page ➤

nology allows commanders to immerse themselves in a virtual environment, which permits 3D mission planning and rehearsals, situational awareness, course of action analysis and after-action review.

Once the commander has worked through a 3-D simulation of the environment, he or she is more able to deploy unmanned resources for optimal efficacy.

Soldiers are actively employing unmanned assets in the operational environment, but it requires extensive human involvement for each platform. The Command and Control Directorate's Command and Control of Robotic Entities (C2ORE) program expands the capabilities of unmanned assets to facilitate the control on the battlefield by providing communication and reconnaissance collaboration capabilities.

Through C2ORE, the unmanned assets es-

entially become aware of each other. The data being recorded by their sensors is analyzed by software which then automatically retasks nearby unmanned systems with the appropriate follow-up missions. This means the amount of work required from the Warfighter is reduced while overall efficiency and safety of the surveillance is increased.

"C2ORE allows for coordination of the systems while enroute and it enables the commander to be able to handle many more entities than he could have before; if there is a deficiency gap in a system, the commander can fill it or compensate with the strength of others," said Melendez. It is through the technical excellence and subject matter expertise of the CERDEC staff and the entire C4ISR community that the Warfighter is provided information and capabilities to out-think the enemy.



U.S. Army Photo

The Command and Control Directorate's C4ISR Automated Virtual Environment (CAVE) allows commanders to plan for missions while immersing themselves in a virtual environment.

See ... Hear ... Deny ... Disrupt ... Communicate ... Out-Think ... Survive

"The level of collaboration needed across the community to make network-centric warfare happen isn't simple. We must forge that type of collaboration to accurately test, assess and field future technologies. To not collaborate in this manner is non-negotiable." - LTC William T. Utroska, Product Manager, PM C4ISR OTM.

The goal of any Army program or technology is to bring the Soldier home safely. To this end, future products and technologies being deployed to the field must be tested and assessed to ensure optimal functioning within a working System of Systems (SoS). This need is served by PM C4ISR OTM.

As an Army capital investment, PM C4ISR OTM supports both DoD and industry technology development efforts by providing a "test-assess-analyze-fix" environment at Fort Dix, N.J., in which systems supporting Future Force initiatives, or those being considered for acceleration into the current force, can be matured and evalu-

ated in a relevant, structured low-risk manner.

Activities conducted at PM C4ISR OTM's lab or field sites are constructed as opportunities to expose systems to conditions not ordinarily available within their development environments. The goal is to evaluate the system against specific performance criteria and then facilitate maturation by providing early feedback to the developing organization.

During their technology demonstrations, PM C4ISR OTM, in concert with partners from government, industry and academia, assesses the technical capability, functionality, maturity and performance of emerging C4ISR technologies and

candidate technologies for insertion into the current force. This year's integrated SoS event, referred to as E08, includes more than 100 live communications, sensor and battle command systems complemented by a Brigade-sized element represented in virtual and constructive simulation. Organizations from the Acquisition and Science and Technology communities, including PMs and RDECs, are provided with honest assessments and lessons learned both throughout the technology demonstration and at its conclusion. In the end, PM C4ISR OTM leverages its state-of-the-art facilities to help ensure technological theory transitions to practical reality.

Continuous Improvement of Products and Processes

"At CERDEC, our goals, objectives, and missions are greatly influenced by actions that occur in the external environment, on a global perspective, and organizations often are required to contribute rapidly to complete critically needed actions, or goals. The teamwork and interactions within the community of practice we call Army Team C4ISR greatly facilitate shifting organizational priorities and uncertainty to accomplish that objective." - Ronald Michel, Director, PRD

The Product Realization Directorate (PRD) supports C4ISR technologies by providing guidance as to how best to manufacture and deploy the end product.

"CERDEC PRD is focused on "Product Availability Assurance," in other words, helping our customers get what they need when they need it," said Ronald Michel, Director, PRD. "We are a force of team members experientially well-rounded in both acquisition and technology that assist our customers get what they need to realize the products and services that will ultimately be delivered to Warfighters."

Serving customers across Team C4ISR, CECOM LCMC and external organizations, PRD's motto of "continuous improvement of prod-

ucts and processes," reflects their effort to allow the directorate to bring better systems to the Warfighter faster through quality assurance, manufacturing engineering, maintenance engineering, test and evaluation and reliability expertise for the CECOM LCMC community.

Ultimately, CERDEC provides a wide range of technical expertise to the Warfighter in the field.

"CERDEC's technical responsibility permeates throughout Army and DoD systems, platforms and programs. It is the System of Systems Network that ties the Army together," said Blohm. "Our technologies and engineering expertise are crucial from communications to power, sensors to Battle Command, Fusion to Radars and much more. As such, we manage more Advanced Tech-

nology Objectives and work as systems integrators across the forces, and our scientists and engineers are known throughout the field for their expertise."

While the collaborative opportunities are enriching and the technology itself is exciting, the motivation for the CERDEC scientists and engineers doing this work is greater than access to cutting-edge systems.

"As an engineer, a citizen and a patriot, the reason why we do what we do is that we make an impact every day in support of the Warfighter in the field.

"Through technological advancements, we give them that edge to protect them while they execute their mission," said Skurla. 

Software developing for dismounts

By Kashia Simmons
CERDEC Public Affairs
Officer

After showcasing a new technology at the Future Force Warrior Advanced Technology Demonstration, a new technology is bringing a world of relevant information and communication to the dismounted warrior.

The Command and Control Mobile Intelligent Net-Centric Software, known as C2MINCS, is developed by the Communications-Electronics Research, Development, and Engineering Center, a subordinate element of the U.S. Army Research, Development and Engineering Command.

C2MINCS is a core software that provides embedded functions such as mapping in several formats, global positioning system, power management, messaging, streamlining medical information to combat medics during rescue missions, and mission planning tools.

"The software has grown into a solid mobile application that is rich in relevant functionality – delivering key capabilities and information to the dismounted Soldier, yet simple to use," said Dominic Fedele, chief, Battle Command Technology Branch in CERDEC's Command and Control Directorate.

"What's unique about C2MINCS is that it is a product that has an open architecture for both hardware and software," Fedele said. "C2MINCS will operate on a number of different types of computer devices; it will run in a Windows operating environment as well as on a Linux operating system."

For the past few years C2MINCS was used by the Natick Soldier Research, Development and Engineering Center (NSRDEC) in their Future Force Warrior program. This past summer at Program Manager C4ISR On The Move, the Future Force Warrior Advanced Technology Demonstration (FFW ATD) trained 40 members of the Fort Benning Experimental Force (EXFOR) Platoon to use C2MINCS in preparation for the Air Assault Ex-

peditionary Force event conducted there.

"This was one of the Battle Command Situational Awareness tools focused on the Rifleman and auto Rifleman variant as part of the distribution capabilities resident in the Ground Soldier Systems Capability Development Document," said Stephan Simmins, Equipment Specialist, FFW ATD.

"One of the attributes of C2MINCS is that it takes only 90 minutes to train a Soldier to use it. The EXFOR was able to use it in relative field environments and conduct missions with increased operational tempo and the potential for fratricide reduction," said Simmins.

NSRDEC is in the beginning stages of the follow-on program, Future Warrior Technology Integration, of which C2MINCS is an integral part.

"C2MINCS is an innovative and open-system software application that in addition to its core capabilities, enables adaptable software plug-ins to operate through a software core that supports multiple communication protocols. Each of the plug-ins provides increased capabilities for the Warfighter," Fedele said.

This allows C2MINCS to be deployed with different sets of functionality. It also opens the door to third parties to easily write plug-ins to achieve their specific mission requirements while leveraging the solid core of C2MINCS, Fedele explained. The first third-party plug-in for C2MINCS was developed by RDECOM's Simulation and Training Technology Center (STTC).

"We are proud that this software is government-owned and developed," said Fedele. He explained that since the core software and initial plug-ins are developed in-house, the government will not have to pay licensing fees, thus making C2MINCS affordable for the military.

The C2MINCS provides a mission rehearsal capability for the dismounted rifleman, allowing mission planning and synchronization of mission scenarios.

Built from the bottom up to run



U.S. Army Photo

The software lead of the Future Force Warrior Advance Technology Demonstration, Stephen Specht, instructs SPC Carl Enriquez of the New Jersey National Guard how to operate C2MINCS during the C4ISR OTM demonstration at Fort Dix.

efficiently on small processing and power demands, C2MINCS enables dismounted Soldiers with mobile hardware to communicate in tactically relevant ways with the rest of their unit, vehicles, and base.

The interactive map display enables the dismounted Soldier to see the locations of friendly entities, which are updated automatically, as well as view hostile entities that are posted by other users.

The software also allows Soldiers the option to post entities by using a multi-function laser mounted on their weapons to designate location. Several different graphical messages can be sent, including waypoints, routes, areas, sectors, and free-hand drawings on the map. All of these can be filtered from the map screen in a configurable way. Text messaging is also available.

C2MINCS can send and receive messages from systems using either Joint Variable Message Format (JVMF) or Cursor on Target (CoT).

Using JVMF allows the software to communicate directly with well established Army Battle Command Systems like the Force XXI Battle Command Brigade and Below (FBCB2) or the Advanced Field Artillery Tactical Data System. Using CoT allows the software to com-

municate with systems that are a part of the FFW program, which includes FFW leader system and unmanned aerial and ground systems.

C2MINCS is expanding its capabilities to handle video and imagery, as well as the option of using the IEEE 802.16 (WiMAX) communications technology.

For example, it would allow the dismounted Soldier to view videos taken by unmanned systems, or receive information from a satellite backbone network into the tactical network, which previously would have been hindered by bandwidth constraints.

Although C2MINCS technology would be available to commanders, its focus has really been for the squad leader down to the rifleman, according to Fedele.

Fedele said the Soldier actively engaging enemy forces is the customer they had in mind while developing the technology.

"Our focus is on the ground Soldier in the operational environment, confronted with the enemy," said Fedele.

"A Soldier in combat only has what's in his hand and on his back. With C2MINCS, the Warfighter will have increased capability and situational awareness, which has the potential to save lives."

Next-gen generators coming soon

By Paul Wein
C3T Correspondent

The Army will soon begin replacing its Tactical Quiet Generator (TQG) fleet with a lighter, more fuel efficient, and quieter set that will reduce the logistical requirements in a Tactical Operations Center (TOC).

Production of the TQG is expected to cease in three years and the smaller and lighter Advanced Mobile Medium Power Sources (AMMPS) will take its place.

As new equipment and systems are added to a TOC, the demand for power increases, said LTC Tim Wallace, product manager for medium-sized generators.

"Everything in the TOC nowadays seems to require more and more power," he said. "Ten years ago, in a brigade TOC, you had a few computers and limited communications equipment. Now you have numerous automated C2 and information systems networked with multiple communications systems all requiring large screens, server racks,



U.S. Army Photo

LEFT to RIGHT: 5kw, 10kw, 15kw, 30kw and 60kw Advanced Mobile Medium Power Sources

and ancillary equipment so the power requirement just continues to grow."

This new AMMPS fleet of generators will be smaller and lighter, as well as have markedly increased reliability and maintainability. The AMMPS sets are required to increase the mean time between essential function failure from 750 hours to 1,250 hours and decrease the median repair time from 1.5 hours to 30 minutes.

The new generators will come with a fuel efficiency increase of between 15-25 percent. "A more fuel efficient generator means less time and manpower refueling it in addi-

tion to the cost savings achieved from requiring less fuel," Wallace said.

Phase one of the program involved the creation of the early prototypes, which produced a generator family that is 25 percent lighter, on average, across the fleet. In addition, the new generators will be anywhere from three to four decibels quieter than those currently in a TOC. Another key reason they will reduce the logistics footprint, Wallace said, is because all of the generators are being manufactured by a single contractor.

Phase two involves moving to system demonstration. The plan is

to build 130 prototypes over 11-months, and then go through developmental and operational testing prior to getting fielded. Also fielded with the generators will be operating and technical manuals, which Wallace says will be new.

"The manuals for the AMMPS generators will include an interactive electronic manual, making it easier for Soldiers to use the generators, because there will be links to more information in the manuals," he said.

Phase three will be the actual production of the generators over a two-year ordering period, followed by another production contract.

Army intel aircraft sets new course

By Timothy L. Rider
Spectra Editor

The project manager of an airborne intelligence aircraft program delayed due to a contract termination in 2006 has proposed a strategy to ultimately deliver on the program's promise of providing timely and critical intelligence to ground commanders.

COL Robert Carpenter, the project manager for Aerial Common Sensors (ACS) said that strategy will deliver the aircraft's key capabilities first, and then incorporate new sensor technologies as they mature.

"We need to rapidly prosecute the areas of interest to the guys in contact and deliver processed, usable intelligence while it's still relevant," said Carpenter. "That's what ACS will do. The key to that is on-board processing in a dedicated and responsive system."

The ACS concept of operations rests on having aircraft equipped

with various sensor payloads overhead with a handful of analysts onboard. Armed with computer power and an information-sharing network, the analysts can "team" with other aircraft and unmanned aerial vehicles in order to exploit enemy information.

Providing this capability is the Army program, Distributed Common Ground Station-Army, Carpenter said. Built of software, computers and communications networks, DCGS-A provides tools that allow analysts to gather intelligence data from multiple sources and convert it into analytical products for delivery to the network of Army battle command applications.

Carpenter said his strategy is guided by the findings of a Defense Department study and lessons learned from across the Defense Department and from the program's past.

The new strategy is being forwarded through the Army head-

quarters to the Defense Department's senior acquisition executive for review.

That strategy would see requests for industry proposals in the late summer; a formal review and start of the program in 2009, leading to "Increment One" production models in 2016.

The Increment One version focuses on the heart of the ACS capability, and the most challenging aspect: integrating the computers and communications network with a suite of technologically mature sensor payloads.

After the Increment One aircraft are fielded, the Army would then incorporate new sensor payloads into the aircraft as their technologies mature in later "increments," finishing with an Increment Four version delivering the most advanced technologies after 2020, according to Carpenter.

"The key is using other people's money," said Carpenter.

"Industry is coming to us with the outcomes of the investments made by other services and we are looking to leverage that."

"We have a lot going on in Guardrail that contributes such as the COMINT (communications intelligence) subsystem. We're also learning a lot about manned and unmanned aircraft teaming from the theater of operations," said Carpenter.

"Before we were going after the 'big bang' approach. We were trying to deliver everything at once, and if you do that you can fail, but right now we're doing great work with our current fleet and we can build on that with manageable risk. We asked, is it more important to put every sensor into the aircraft or make it part of the network?"

"The answer lies in the middle; capable sensor payloads, both dedicated and responsive but networked to provide persistence," said Carpenter.

Firefinding takes to 360-degree view

By Jason Bock
IEW&S Correspondent

It was not very long ago that war was still fought on a linear battlefield.

Armies lined up opposite each other and unidirectional radar served its purpose well. When the line of an incoming attack shifted its point of origin, a radar system could be torn down, moved, and repositioned with little or no negative repercussion on the fighting force.

Those days are far behind us.

With the onsets of Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF), the challenge of an asymmetrical battlefield presented itself as the Army was forced into a wartime situation in which the enemy would attack from all angles.

The Army's Product Manager Radars office within the Program Executive Office for Intelligence Electronic Warfare and Sensors (PEO IEW&S) solution for dealing with the new battlefield is the Enhanced AN/TPO-36 Counterfire Target Acquisition Radar.

"There really isn't a linear battlefield anymore and we are finding in country that projectiles are coming from all different directions," said LTC Brian Bosworth, Assistant Product Manager for the EQ-36. "We really have pressed forward with the need for a truly 360-degree counterfire radar, and that is the genesis of the EQ-36."

The EQ-36 is a significant upgrade from the Army's currently fielded Q-36 and Q-37 model Firefinder radars. It fills a paramount need of the Soldier in theater with the introduction of a continuous, 360-de-

gree field of vision, while offering greater mobility, flexibility, ease of use, range and supportability to the Warfighter.

"EQ-36 will provide the necessary situational awareness and targeting capability tomorrow's commander requires to combat an adaptive enemy threat operating in an asymmetric environment," said technical director for PEO IEW&S Dr. Richard Wittstruck.

The EQ-36 represents a vast improvement in both range and accuracy over existing counterfire radars. It has shown the ability to operate through extreme clutter and features a probability of location rate that performed with an accuracy level of over 90 percent during tests conducted at Yuma Proving Ground, Ariz. in the summer of 2007.

The Army moved into an active element solid state array design for the EQ-36, in which transmitter and receiver functions are composed of numerous small transmit/receive modules. These modules exist on the face of the radar serving as the building blocks for the radio frequency generation process.

"The EQ-36 paints the sky, in sections called search fences," Bosworth explained. "As it picks up a projectile going through a search fence, it schedules additional beams to track that target."

When the radar collects enough hits on a target, it can develop a trajectory and passes that trajectory digitally to the Advanced Field Artillery Tactical Data Sys-

tem (AFATDS), a fire support component that is used to plan and execute fires during operations. AFATDS can process call for fire missions and send fires data to fire batteries.

The EQ-36 can deliver both the point of origin of a projectile and a point of impact and display that information visually on a large screen for the Soldier, who will have two displays at his station.

"One will have an AFATDS picture and the other can have whatever the RCDU (Remote Control Display Unit) is looking at," Bosworth said.

The RCDU may be displaying a picture of the battlefield through the Army's Force XXI Battle Command Brigade and Below, electronic technical manual or embedded radar training device.

"The EQ-36 is as mobile as any other radar we have," said Bosworth. "It can't track targets on the move, but given the speed at which we can place and displace, it's as mobile as any other counterfire radar that we've ever had."

Operating the EQ-36 requires fewer vehicles and fewer Soldiers. "The reduction in crew size is paramount to obtaining life cycle savings," said Product Manager for Radars, LTC Al Visconti. "We're adding capability and saving a lot of manpower."

And while its system interface includes an embedded training device that displays on-screen instructions to the Soldier, the hardware trouble-shooting for the system can be just as user-friendly.

The EQ-36 is built with state-of-

the-art production components that can be swapped out by a Soldier in the field if necessary.

The vision for the EQ-36 on the battlefield is to operate along with PEO IEW&S's Lightweight Counter-Mortar Radar (LCMR).

The LCMR detects and locates mortar firing positions automatically by detecting and tracking the mortar shell and then backtracking to the weapon position. It provides continuous 360-degree surveillance and mortar location and would scan the areas immediately surrounding a stationed EQ-36. The EQ-36 would act in conjunction, painting the sky in an area beyond the circumference of the LCMR's detection.

"There is a gap on the battlefield with respect to radar coverage," Visconti said. "The vision of the Army's Counterfire Radar Strategy is to have a number of EQ-36s and a number of LCMRs at a brigade commander's disposal. This will provide the Modular Force the requisite persistent surveillance and counterfire radar coverage to win decisively on the battlefield."

The EQ-36 represents a support structure and fielding capability that is unprecedented by Army Team Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) standards.

"On the technology side, we've proven out that we can spin a radar and pick out indirect fire in an operational environment," Visconti said. "We went out and built a program with that being the basis of our concept."



With two vehicles, a main and backup generator, the EQ-36 can be emplaced and operated by a crew of two to four Soldiers. In contrast, the current Q-36 requires three vehicles and six Soldiers, while the current Q-37, with four vehicles, requires a total of 12 Soldiers.

Aberdeen Proving Ground,

Groundbreaking begins a new Army Team C4ISR era

By Henry Kearney
CECOM LCMC Public
Affairs Officer

Army officials broke ground on a new \$477 million complex at Aberdeen Proving Ground (APG), Md., marking the start of construction of "Phase One" of the Army Team C4ISR (Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance) campus there, March 17.

Under the construction contract, Tomkins-Turner Grunley/Kinsley, a Joint Venture, will build five administration and laboratory buildings, a secure shop and warehouse, an auditorium and a training facility of 1.5 million square feet.

Assistant Secretary of the Army for Installations and Environment Keith Eastin; GEN Benjamin S. Griffin, AMC commander; MG Dennis L. Via, CECOM Life Cycle Management Command (LCMC) commander; MG Fred D. Robinson, commander, Research, Development and Engineering Command; BG Todd Semonite, commander, U.S. Army Corps of Engineers North Atlantic Division; and Maryland Lt. Gov. Anthony Brown were among the guest speakers and participants in the ceremony.

"As we begin a new chapter in our proud history, we do so with great confidence in continuing to execute our mission, along with a renewed sense of commitment to exceptional service to our nation," Via said in his remarks at the ceremony. "We also remain committed to taking care of our people who are front and center and at the very heart of everything we do."

Griffin noted that the successful transition of the C4ISR mission to APG will be essential to Warfighter support. "The challenge I give to the leaders here and to the folks back at Fort Monmouth, Fort Belvoir and other places around the Army Materiel Command is that today is the beginning," he said. "There's much work to be done. Thank you for the work you do day in and day out. There is no more critical mission to our nation than the work you do."

Robinson noted that the new complex will be the most visible part of the changed installation APG will soon become. "We are looking at the future of high-tech that will make a difference every day to our warfighters and the future of our

The new \$477 million complex at Aberdeen Proving Ground, shown in the graphic illustrations above and on the next page will be designed to create a college campus atmosphere with buildings located closer together and with similar mission areas closely linked in a work environment much different from the one currently at Fort Monmouth.

nation," he said.

Every Army Team C4ISR organization currently located at Fort Monmouth will occupy some space in the initial phase of construction, said Mike Vetter, CECOM LCMC director for logistics and engineering.

"Phase Two" of the construction is slated to begin in 2009 with three new buildings and renovations of existing buildings.

The two phases will create the "C4ISR Cen-

ter of Excellence" and a work environment similar to a college campus that will be significantly different from the one at Fort Monmouth, according to Vetter. Mission personnel there are currently spread across 40 to 50 buildings. At APG the same people will occupy a much smaller 16-building complex.

"The entire complex fits on a plot of land between three and four thousand square feet making it easy to meet with people," Vetter said.

COMMAND, CONTROL, COMMUNICATIONS, COMPUTERS, INTELLIGENCE, SURVEILLANCE AND RECONNAISSANCE

EQUIPPING THE JOINT W

ARMY

Maryland:

FUTURE OPERATIONS



Photos by Conrad Johnson

TOP: Key leaders from the military and surrounding community break ground March 17, signifying the first steps in the implementation of the 2005 Base Realignment and Closure Congressional plan at Aberdeen Proving Ground, Md., at the Army Team C4ISR Complex Groundbreaking Ceremony held March 17.

BOTTOM: Construction begins: Former World War II buildings on Aberdeen Proving Ground undergo demolition as part of the first steps in implementing the 2005 Base Realignment and Closure Congressional plan.

"Parking will be closer to workplaces than it is here. Buildings will be dedicated more along business and functional areas; and people who work in similar mission areas will probably work in the same building."

Dave Stroebe, a technical writer with the Logistics and Readiness Center's Command and Control Systems/Avionics Directorate who attended the groundbreaking, said that for him the ceremony and transition represents "a new chapter in our lives and a great opportunity for many of us—career-wise." Another attendee, Communications-Electronics Research, Development and Engineering Center (CERDEC) computer engineer intern Jason Yabut noted that "it was a great experience to witness history in the making

and the BRAC [Base Realignment and Closure] plans unfold before our eyes. You look now at what seems to be a simple piece of land but, in reality, this is going to be the new home of C4ISR and the future of supporting the Warfighter's needs."

Alpesh Patel, CERDEC computer engineer intern, said it was "an honor to be part of a groundbreaking for the future home of Team C4ISR."

"Commanding General Robinson and Commanding General Via have always stated that, along with the mission, it is also a priority for the teams from Aberdeen Proving Ground and C4ISR to 'take care of our people,'" Patel said. "It is time for 'our people' to return the favor and con-

tinue to take care of the Warfighter. This is a great opportunity for interns to take advantage of and to do something special for our current and future Warfighter."

The movement of equipment and personnel to APG is being planned and conducted in phased stages prior to 2010 to ensure stability of operations during the relocation without interruption.

As of late July, there were already 32 Army Team C4ISR personnel working in temporary work locations at APG (some of whom volunteered to move early as well as new hires and newly-assigned military personnel). Plans call for well over 1,000 out of a total of approximately 7,000 Army Team C4ISR military, civilian and contractor positions to relocate by the early sum

"APG," Continues Next Page



mer of 2010 (again through early moves, hiring at APG and military assignment).

All of the remaining positions are expected to move later that year and in 2011 as construction of the Phase One and Phase Two campuses is completed.

Success in planning and implementing the initial phased relocations to APG during the next two years will set the condition for the successful movement of major elements of the command by establishing an initial command and control structure there, Via said.

Stating that "effective with the groundbreaking ceremony at Aberdeen Proving Ground, we have transitioned from the planning to the execution phase of our BRAC relocation", he announced a major reorganization of the CECOM LCMC headquarters last April to better align the command and Army Team C4ISR organizations to execute the actual relocation.

The reorganization established three new positions - Deputy Commander for Operations, Plans and BRAC; Deputy Commander (Forward) at APG, and Director, Commander's Initiatives Group.

Via elevated his former Chief of Staff, COL Kent Woods, to the Deputy Commander for Operations/Plans and BRAC position in early May. COL Augustus L. Owens II reported to the CECOM LCMC in June as the Deputy Commander (Forward), becoming the first member of the Command Group to be located at APG.

COL Scot MacKenzie reported to the

CECOM LCMC in early August as the Director of the Commander's Initiatives Group.

COL. Ray Montford, former Project Manager, Force XXI Battle Command Brigade and Below, assumed duties in May as Woods' successor as the CECOM LCMC Chief of Staff.

As the Deputy Commander for Operations/Plans and BRAC, Woods has responsibility for coordinating, integrating and synchronizing all efforts and mission sets that encompass the entire CECOM LCMC and Army TEAM C4ISR relocation to APG.

As the commander's principal lead for BRAC execution, he's charged with focusing on BRAC transformation, operational planning, and execution, while sustaining Global War on Terror support and contingency mission requirements.

Owens, as the Deputy Commander (Forward) at APG, is responsible for coordinating, integrating, and synchronizing all efforts to support Army Team C4ISR elements and personnel as they transition to APG.

Owens also serves as the principal interface for those purposes with the U.S. Army Garrison Commander, APG, and with the APG Senior Mission Commander staff, and he is the CECOM LCMC Commanding General's personal representative at APG.

As Director of the Commander's Initiatives Group, MacKenzie will develop the strategic concepts for the CECOM LCMC and Army Team C4ISR as well as the strategic vision and Campaign Plan for 2015 and beyond. He will also

manage the CECOM LCMC strategic communications and marketing efforts and industry outreach program.

In speaking of those planned initiatives, Via emphasized that "we are leveraging BRAC as a catalyst for change...[and to] reconstitute the command and determine what we need to support the future force and capabilities in 2015."

He explained that the command is continuing to meet with senior leaders located at APG to ensure all workforce and mission needs are met. In addition to office and laboratory space there, planning is also in process for a food court, development of a shore park area, a new child care facility, and temporary housing to help meet the needs of Army Team C4ISR personnel relocating there.

In addition, command implementation of innovative recruitment methods and training, strategic communications and knowledge capture will help ensure a successful phased relocation of the workforce, Via said.

Via added that the availability of bus trips to the APG area, informational kiosks, relocation fairs and other strategic communications sources will be employed to provide the members of the command with the information they need to determine their future and facilitate their transition.

"Working together, we'll meet the challenges of relocating our complex mission; and we'll continue to excel together in supporting our nation's Warfighters and the Global War on Terror," Via said.



«“ESSCs,” From Page 55

workloaded, tracks service provider performance, assists in planning for surge requirements, and acts as the AFSB Commander's "eyes and ears" for monitoring service provider mission execution success. Each ESSC executes the mission and responsibilities designated for an ESA in the region corresponding to the area of operations of the AFSB supported. The ESSC Manager works for the assigned CECOM LCMC Senior Command Representative (SCR). As a senior member of the CECOM LCMC deployed staff, he is responsible for delivery of sustainment maintenance and logistics support forward for C4ISR weapons systems.

Fielded by the CECOM LCMC Readiness Directorate under the ESSC support structure, the C4ISR Regional Support Centers (RSCs) deliver sustainment maintenance and repair forward for select C4ISR systems, environmental control units (ECUs) and generators.

They also provide sustainment maintenance and repair support for over 40 Non-Standard Equipment (NSE) items fielded to land forces in Southwest Asia, including Rapid Equipping Force (REF) managed C4ISR weapons systems. Other ESSC service providers are the Tobyhanna Army Depot FRAs, for Tier III-level maintenance support, including for Standard Army Management Information System computers, and Common Ground Stations, and the Project Manager, Command Post provided RSCs for warranty service and repair support for Common

Hardware Systems (CHS) and for support of Warfighter Information Network Increment One components. The Communications Security Logistics Activity Information-Security Representatives are also managed through the ESSC structure.

Regional ESSCs and service provider groupings are based at Fort Bragg, N.C.; Fort



U.S. Army Photo

Generators from throughout Southwest Asia are evacuated to the ESSC generator repair facility at Camp Arifjan, Kuwait for repair of combat damage and complete overhaul as part of the reset process. Most of the staff members are local national hires from the region.

Hood, Texas; and Fort Lewis, Wash. in the United States; at the Seckenheim/Freidrichsfeld logistics support complex in Germany (with deployment location in Kosovo in support of Task Force Falcon); and at Camp Humphreys, Korea. As mission dictates and funding enables, the CECOM LCMC is initiating Continental United States Installation-level

ESSC / C4ISR RSC locations for support of newly modularized Brigade Combat Teams. The first such location has been established at Fort Carson, Colo. The ESSC primary Southwest Asia deployment location is at Camp Arifjan, Kuwait. Forward ESSC operating locations are Bagram Air Base, Afghanistan and Camp Anaconda, Balad, Iraq. ESSC service providers are at 15 different locations throughout Southwest Asia.

As the U.S. Army seeks to complete its transformation into a leaner, modular and even more rapidly responsive force, the CECOM LCMC and its forward service providers are maintaining the pace. The one mission and one vision at the CECOM LCMC is the Warfighter. That focus will never change. The ESSC with its service providers is a critical component of the CECOM LCMC's contingency-proven structure for meeting its Warfighter mission imperative.

ABOUT THE AUTHOR

Mike Pettitt retired from the U.S. Army in 1995 after more than 22 years of active service as a quartermaster and foreign area officer. Following over 10 years employment as a DoD contractor, he became a Department of the Army logistics management specialist in 2006.

Pettitt is currently assigned to the CECOM LCMC LRC / DRE / FSSD at Fort Monmouth, N.J. He is a graduate of the U.S. Army Command and General Staff College and holds a Master's of Science in Systems Management, University of Southern California. Pettitt has Level I certifications in Life Cycle Logistics and Program Management.

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defects, but must also work to identify the root cause of the problems to prevent recurrences in subsequent projects. Software requirements and changes to those requirements must be expertly managed. And when work is performed across multiple groups, it must be thoroughly and precisely coordinated.

The only way to make efforts such as these repeatable and predictable is to focus on implementing well-defined and measurable software engineering processes across the entire organization. "Advanced project management practices and painstaking attention to detail are ingrained in the team," said Malone. "In a CMMI high-maturity environment, success becomes an unquestioned, routine part of life."

Attaining the Level 5 rating does not mark

the end of improvements. The effects of SEC FSED achievements are being measured throughout the Army and DoD through the team's efforts to support other organizations on the path of continuous process improvement. The SEC FSED team provides technical assistance in software development, assists in formal inspections and provides process improvement guidance for organizations advancing through CMMI Levels 2 through 5.

Achieving meaningful process improvement requires committing months and years to the effort. In addition to acquiring expertise in systems and software engineering, SEC FSED has developed a wide-ranging knowledge base in areas such as joint interoperability, NATO operations, missile systems and all auxiliary equipment related to fire support. Over the years, SEC FSED has pioneered many critical fire support technologies that have had a direct

impact on the lives of Warfighters throughout the world, and its accomplishments set a high standard for the Army's commitment to continuous process improvement.

ABOUT THE AUTHOR

Charles Cantrell has been the Chief of the Fires Software Engineering Division since June 12, 2005. Cantrell exercises centralized authority and control over system-level resources, including funding, priorities, schedules, personnel, facilities and work performed by various supporting organizations.

He holds a Master's in Business Administration and a Bachelor of Science in Industrial Electronics Technology from Cameron University. Cantrell is an established member of the Army Acquisition Corps and is certified at Level III in Information Technology and Level I in Program Management.



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